**TENDER DOCUMENT**





**GOVERNMENT OF MADHYA PRADESH**

**DEPARTMENT OF MEDICAL EDUCATION**

TENDER NO. : CPC/EQUIPMENTS/13-14/12

FOR SUPPLY OF : **EQUIPMENTS** FOR GOVERNMENT / AUTONOMOUS MEDICAL COLLEGES, DENTAL COLLEGE & ASSOCIATED HOSPITALS UNDER MEDICAL EDUCATION DEPARTMENT, GOVT. OF M.P. BHOPAL

**CONTRACT DOCUMENT CONSISTING OF TENDER NOTICE, TENDER FORM, RATE SHEET, TENDER CONDITIONS, SPECIFICATIONS AND TECHNICAL PARTICULARS, FORM OF AGREEMENT ETC.**

ISSUING AUTHORITY

CHAIRMAN, PURCHASE COMMITTEE &

DEAN, M.G.M MEDICAL COLLEGE,

A.B. ROAD INDORE (M.P.)

INDEX

|  |  |  |
| --- | --- | --- |
| Sr. | Particular | Page No. |
|  | Important dates | 3 |
|  | ***Guideline to bidders for implementation of e-procurement system*** | 4 |
|  | Section- I (Invitation for bid) | 9 |
|  | Section –II (Instructions to bidder) | 11 |
|  | Section –III (General Conditions of Contract) | 29 |
|  | Section –IV(Special Conditions of Contract) | 45 |
|  | Section –V (Bid Form) | 54 |
|  | Table of Annexure | 55 |
|  | Requirement of equipments | 73-135 |

**GOVERNMENT OF MADHYA PRADESH**

**DEPARTMENT OF MEDICAL EDUCATION**

**NATIONAL COMPETITIVE BIDDING FOR THE SUPPLY OF EQUIPMENTS FOR GOVERNMENT / AUTONOMOUS MEDICAL COLLEGES, DENTAL COLLEGE & ASSOCIATED HOSPITALS UNDER MEDICAL EDUCATION DEPARTMENT, BHOPAL, M.P. UNDER RATE CONTRACT**

BID REFERENCE : CPC/EQUIPMENTS/13-14/12

PRE BID MEETING : 11.06.2013

|  |
| --- |
| **Key Dates : Single Submission MultiOpening With Prequalification** |
|  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Seq No** | **DME Stage** | **Contractor Stage** | **Start Date & Time** | **Expiry Date & Time** |
| 1 | Tender Preparation and Release of NIT | - | 20-05-2013 10:00 | 28-05-2013 17:30 |
| 2 | - | Tender Purchase - Online | 28-05-2013 17:31 | 29-06-2013 17:00 |
| 3 | - | Tender Download | 28-05-2013 17:31 | 30-06-2013 17:00 |
| 4 | - | Submit Bid - Hash Online | 28-05-2013 17:31 | 02-07-2013 16:00 |
| 5 | Close for Bidding - Generation of Super Hash | - | 02-07-2013 16:01 | 02-07-2013 17:30 |
| 6 | - | Submit Bids Online - Re-encryption | 03-07-2013 17:31 | 04-07-2013 17:00 |
| 7 | Open EMD & Technical / PQ bid | - | 06-07-2013 10:00 | 30-07-2013 17:00 |
| 8 | Open Financial / Price-Bid | - | 31-07-2013 10:00 | 19-08-2013 17:00 |

|  |
| --- |
|  |
| Last date for submission of original EMD and other relevant documents is 05.07.2013 upto 17:30 pm. All key dates are tentative and subject to be changed as per procurer requirement, all the information regarding this will be floated only on <http://dme.mpeprocurement.gov.in> portal. | |

PLACE OF OPENING OF BIDS : Tender will be open online as per key dates

at <http://dme.mpeprocurement.gov.in>

ADDRESS FOR SUBMISSION OF : Chairman, Purchase Committee & Dean

PHYSICAL TENDER DOCUMENTS M.G.M. Medical College,

A.B. Road, Indore – 452 001 (M.P.)

Telephone: 0731-2438271, 2526112, 2527383

Fax : 0731-2514628

Website: <http://dme.mpeprocurement.gov.in> ,

Email: [cpc2013mgmmc.indore@yahoo.com](mailto:cpc2013mgmmc.indore@yahoo.com),

Note: Tender can be downloaded from the website “<http://dme.mpeprocurement.gov.in> by making on line payment of Rs. 610/- (Rs. Six Hundred Ten only)

and

Cost of tender form in the form of DD of Rs.5,000/- in the name of Dean, M.G.M. Medical College, Indore payable at Indore (M.P.) should be submitted in a separate Envelope marked “Tender Fee” along with physical documents, failing which the tender will be rejected. Email: [cpc2013mgmmc.indore@yahoo.com](mailto:cpc2013mgmmc.indore@yahoo.com)

*GUIDELINES TO BIDDERS FOR IMPLEMENTATION OF*

*e-PROCUREMENT SYSTEM IN DEPARTMENT OF MEDICAL EDUCATION, GOVERNMENT OF MADHYA PRADESH*

*http://dme.mpeprocurement.gov.in*

***Note: These conditions will over-rule the conditions stated in the tender documents, wherever relevant and applicable.***

1. **Registration of Bidders on e-Procurement System:**

***All the Bidders (Contractors/Vendors) registered / intending to register with DEPARTMENT OF MEDICAL EDUCATION are required to register on the e-Procurement System on the website http://mpeprocurement.gov.in and get empanelled on http://dme.mpeprocurement.gov.in in order to participate in restricted tenders processed by DEPARTMENT OF MEDICAL EDUCATION using the e-Procurement System.***

***The Bidders (Contractors) registered with other departments who are also eligible to participate in tenders processed by DEPARTMENT OF MEDICAL EDUCATION are also required to be registered on the e-Procurement System on http://mpeprocurement.gov.in.***

***Bidders who are already registered on http://mpeprocurement.gov.in can use their existing User Id to login and participate in online tenders floated by DEPARTMENT OF MEDICAL EDUCATION***

*Digital Certificates:*

***The Bids submitted online should be signed electronically with a Class III Digital Certificate to establish the identity of the Bidder submitting the Bid online. The Bidders may obtain Class III Digital Certificates issued by an approved Certifying Authority authorized by the Controller of Certifying Authorities, Government of India.***

***A Class III Digital Certificate is issued upon receipt of mandatory identity proofs along with an Application Form. Only upon the receipt of the required documents, a Digital Certificate can be issued.***

*Note: It may take up to 4 working days for issuance of Class III Digital Certificate, hence the bidders are advised to obtain them at the earliest.*

**The Bidders may obtain more information on Digital Certificate from**

***NexTenders (India) Pvt. Ltd.***

***A - 6, Sahyog Parisar Opp. Makhanlal Chaturvedi University,***

***E - 8, Shahpura,Bhopal - 462 039 (M.P.) Ph. No.: 0755 - 407 50 10***

***Email: Bhopal@nextenders.com***

*Important Note:*

***Bid for a particular tender can be submitted during the ONLINE BID SUBMISSION stage only using the Digital Certificate that is used to encrypt the data and sign the hash during the ONLINE BID PREPARATION AND HASH SUBMISSION stage.***

***In case, during the process of a particular tender, the bidder looses his Digital Certificate because of any problem (such as misplacement, virus attack, hardware problem, operating system problem, etc.); he may not be able to submit his bid online.***

***Hence, the bidders are advised to keep their Digital Certificates in a safe place under proper security to be used whenever required.***

***The digital certificate issued to the Authorized User of a Partnership firm / Private Limited Company / Public Limited Company / Joint Venture and used for online bidding will be considered as equivalent to a no-objection certificate / power of attorney to that user.***

***In case of Partnership Firm, majority of the Partners have to authorize a specific individual through Authority Letter signed by majority of the Partners of the firm.***

***In case of Private Limited Company, Public Limited Company, the Managing Director / any other Person (having designated authority to authorize a specific individual) has to authorize a specific individual through Authority Letter.***

***Unless the certificate is revoked, it will be assumed to represent adequate authority of the specific individual to bid on behalf of the Organization for online tenders as per Information Technology Act 2000. This Authorized User will be required to obtain a Digital Certificate. The Digital Signature executed through the use of Digital Certificate of this Authorized User will be binding on the firm. It shall be the responsibility of Management / Partners of the concerned firm to inform the Certifying Authority, if the Authorized User changes, and apply for a fresh digital certificate for the new Authorized User.***

1. **Set Up of Bidders’ Computer System:**

In order for a Bidder to operate on the e-Procurement System, the Computer System of the Bidder is required to be set up for Operating System, Internet Connectivity, Utilities, Fonts, etc. A help file on setting up of the Computer System can be obtained from e-Procurement Cell.

1. **Publishing of N.I.T.:** For the Tenders processed using the e-Procurement System, only a brief Advertisement related to the Tender shall be published in the newspapers and the Detailed Notice shall be published only on the e-Procurement System. The contractors can view the Detailed Notice and the time schedule for all the Tenders processed using the e-Procurement System on the website http://dme.mpeprocurement.gov.in
2. **Key Dates:** The Bidders are strictly advised to follow the time schedule (Key Dates) of the Tender for their side for tasks and responsibilities to participate in the Tender, as all the stages of each Tender are locked before the start time and date and after the end time and date for the relevant stage of the Tender as set by the concerned Department Official. However, it is advised to complete the required stage well in advance and not to wait for last date and time for processing.
3. **Online Processing Fee:**

***The Tender documents can be downloaded ONLY online. The Tender shall be available for download to the concerned eligible bidders immediately after online release of the Tender and upto the scheduled date and time as set in the key dates.***

***The Bidders can submit the tender documents online by making online payment of online processing fee of Rs.610/- using the service of the secure electronic payments gateway (see point 6 below for further details), and should print out the system generated receipt for their reference which can be produced whenever required. Arrangements have been made for the Bidders to make payments online (Rs.610/-) via Debit Card / Internet Banking towards online processing fee.***

1. **Electronic Payment Account:**

As the tender documents shall be available for download only online, Bidders are required to pay the online processing fee online using the Online Payments Gateway Service integrated into the e-Procurement System.

***For the list of available modes of electronic payments that are presently accepted on the Online Payments Gateway Service, please check the link ‘List of e-Payments accepted Online’ on http://mpeprocurement.gov.in.***

1. **Preparation of Bids and Submission of Bid Seals (Hashes) of Online Bids by the Bidders:**

The Bidders have to prepare their Bids online, encrypt their Bid Data in the Bid Forms and submit Bid Seals (Hashes) of all the Envelopes and documents required to be uploaded related to the Tender as per the time schedule mentioned in the key dates of the Notice Inviting Tenders after signing of the same by the Digital Signature of their authorized representative.

1. **Generation of Super - Hash:**

After the time of submission of Bid Seal (Hash) by the Contractors has lapsed, the bid round will be closed and the concerned Department Official shall generate a Tender Super – Hash which shall be digitally signed by the Department Official.

1. **Decryption and Re - Encryption Bids:**

Bidders have to decrypt the Bid Data with their Digital Certificate and re-encrypt the Bid Data and also upload the relevant documents using Online Briefcase feature for which they had generated the Bid Seals (Hashes) during the Bid Preparation and Hash Submission stage within the specified time as stated in the time schedule (Key Dates).

The encrypted data of only those Bidders who have submitted their Bid Seals (Hashes) within the stipulated time, as per the tender time schedule (Key Dates), will be accepted by the system. A Bidder who has not submitted Bid Seals (Hashes) within the stipulated time will not be allowed to decrypt and re-encrypt his Bid Data or upload the relevant documents.

1. **Submission of Earnest Money Deposit:**

The Bidders shall submit their Earnest Money Deposit as usual in a physically sealed Earnest Money Deposit Envelope and the same should reach the concerned Office as stated in the Notice Inviting Tender by post.

The Bidders have to upload scanned copy of Earnest Money Deposit instrument along with the reference details.

1. **Opening of Tenders:**

***The concerned Department Official receiving the tenders or his duly authorized Officer shall first open the online Earnest Money Deposit Envelope of all the Bidders and verify the scanned copy of the Earnest Money Deposit uploaded by the Bidders. He/She shall check for the validity of Earnest Money Deposit as required. He/She shall also verify the scanned documents uploaded by the Bidders, if any, as required. In case, the requirements are incomplete, the commercial and other Envelopes of the concerned Bidders received online shall not be opened.***

The concerned Official shall then open the other Envelopes submitted online by the Bidders in the presence of the Bidders or their authorized representatives who choose to be present in the order of opening.

***He/She will match the Bid Seal (Hash) of each Envelope and the documents uploaded, during the respective opening, with the hash submitted by the Bidders during the Bid Preparation and Hash Submission stage. In the event of a mismatch, the Bid Data in question shall be liable for a due process of verification by the Nodal Officer of e-Procurement System of DEPARTMENT OF MEDICAL EDUCATION.***

**SECTION I :**

**INVITATION FOR BIDS (IFB)**

**SECTION I : INVITATION FOR BIDS (IFB)**

Date : 27.05.2013 IFB No.: CPC/EQUIPMENTS/13-14/12

1. For the requirement of Indore, Bhopal, Jabalpur, Gwalior, Rewa & Sagar Medical Colleges, Dental College & Associated Hospitals Under Medical Education Department, Government of Madhya Pradesh, Bhopal Chairman, Purchase Committee & Dean, M.G.M. Medical College Indore (M.P.) now invite online bids from eligible bidders for supply of Equipments under Rate Contract.
2. Bids may be submitted by the primary manufacturer or their authorized distributor or importer for and on behalf of the primary manufacturer provided the bid is accompanied by a duly notarized letter of authority from the primary manufacturer. 
   1. Price of bidding document

(Non refundable DD) : Rs. 5,000/-

(**D.D. in favour of Dean** M.G.M. Medical College, Indore payable at Indore )

* 1. Pre Bid Meeting : 11.06.2013
  2. Last date and time for submission of bids : As per online key dates
  3. Date and time of opening of Bid (Envelope “D” & “A”) : As per online key dates
  4. Place of opening of bids : at <http://dme.mpeprocurement.gov.in>
  5. Address of communication: Chairman, Purchase Comittee & Dean,

M.G.M. Medical College,

A.B. Road, Indore (M.P.) – 452 001

1. Bidders may offer their bid online for any one or more Equipments For Radiadiagnosis. Bids will be evaluated for each equipment separately.
2. Bid and bid security as specified in the bid document must be delivered as per prescribed format for online and physical submission specified in notice and tender document.
3. Bids will be opened online in the presence of Bidder’s representatives who choose to attend on the specified date and time fixed for opening the bid. Envelop D containing envelop A & B documents will be opened online as well as physically, out of which envelop A will be immediately opened. Documents together with contents of envelop A will be subject to scrutiny, those bidders whose documents and contents are as per tender conditions will only be deemed qualified for opening of technical bid. The date and time of opening of technical bid (envelop B) will be made available on website within a week of opening of bid and will be communicated online only at <http://dme.mpeprocurement.gov.in>
4. **Price bid should be submitted online only. In case price bid is submitted manually bid will be out through rejected.** Cost of tender form Rs.5,000/- (in the form of DD) should be submitted in separate Envelope marked “Tender Fee”. EMD & Technical Bid will be submitted separately in separate sealed Envelopes. Technical Bid will be evaluated as per specification and National Competitive Bidding terms and conditions by the Technical Committee. Those bidders who qualify for the technical bid will be invited for demonstration whereable applicable of equipment on the day, date & place specified by R.C.A. The bidders will have to demonstrate the equipments on the date, day and place specified. Thereafter, Price Bid (Envelope C) will be opened online only for those bidders whose bid will be found technically responsive after demonstration. Opening of date of price bid will be communicated online at <http://dme.mpeprocurement.gov.in> hence bidder are advised to visit web portal on day to day basis.
5. In the event of the date specified for bid receipt/opening being declared as closed / holiday, due date for receipt/opening of bid will be post poned online.
6. Supporting documents along with original EMD and cost of tender form has to be submitted by tenderer at Chairman, Purchase Committee & Dean office, M.G.M. Medical College, Indore (M.P.) on or before the time & date of submission as mentioned above.
7. Time of Completion of work within 8 weeks from the date of allotment letter.

CHAIRMAN, PURCHASE COMMITTEE &

DEAN, M.G.M MEDICAL COLLEGE,

A.B. ROAD INDORE (M.P.)

**SECTION II :**

**INSTRUCTIONS TO BIDDER (ITB)**

**SECTION II: INSTRUCTIONS TO BIDDER**

**TABLE OF CLAUSES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Clause No.** | **Topic Number** | **Page No.** | **Clause No.** | **Topic Number** | **Page No.** |
|  | A. **Introduction** |  |  | **D. Submission of Bids** |  |
| 1. | Scope of work | 12 | 17. | Bid stages | 20 |
| 2. | Eligible Bidders | 12 | 18. | Deadline for Submission of Bids | 24 |
| 3. | Eligible Goods and Services | 12 | 19. | Late Bids | 24 |
| 4. | Cost of Bidding | 13 | 20. | Modification and withdrawal of bids | 24 |
|  |  |  |  |  |  |
|  | **B. Bidding Documents** |  |  | **E. Bid opening and evaluation of Bids** |  |
| 5. | Contents of Bidding Documents | 13 | 21. | Opening of Bids by the Rate Contracting Authority | 25 |
| 6. | Clarification of Bidding Documents | 14 | 22. | Clarification of Bids | 26 |
| 7. | Amendment of Bidding Documents | 14 | 23. | Preliminary Examination | 26 |
|  | **C. Preparation of Bids** |  | 24. | Evaluation and Comparison of Bids | 27 |
| 8. | Language of Bid | 14 | 25. | Contacting the Rate Contracting Authority | 27 |
| 9. | Documents Comprising the Bid | 14 |  | **F. Award of Contract** |  |
| 10. | Bid Form | 15 | 26. | Post qualification | 27 |
| 11. | Bid Prices | 15 | 27. | Award Criteria | 28 |
| 12. | Bid Currencies | 16 | 28. | Purchaser’s Right to vary Quantities | 28 |
| 13. | Documents establishing Bidder’s Eligibility and Qualifications | 16 | 29. | Rate Contracting Authority’s Right to Accept any Bid and to Reject any or all bids | 28 |
| 14. | Documents establishing Good eligibility and conformity to Bidding Documents | 19 | 30. | Notification of Rate Contract | 29 |
| 15. | Bid Security | 19 | 31. | Signing of Rate Contract | 29 |
| 16. | Period of Validity of Bids | 20 | 32. | Performance Security & Inspection Charges | 29 |
|  |  |  | 33. | Placement of Supply Order | 29 |
|  |  |  | 34. | Corrupt or Fraudulent Practices | 30 |

1. **Introduction**
2. **Scope of Work**
   1. Govt. of Madhya Pradesh, Medical Education Department, requires Equipments for various Govt. / Autonomous Medical Colleges, Dental College & Associated Hospitals of Madhya Pradesh. Bid is issued for procurement of Equipments at competitive rates. After finalization of the bid, the contract will be awarded to successful bidders for supply of the items, during one year or till further order on rate contract basis on approved rates. Equipments are to be supplied & installed at various designated places like Indore, Bhopal, Jabalpur, Gwalior , Rewa & Sagar.
3. **Eligible Bidders**

2.1 This invitation for Bids is open to all eligible bidders (Please refer guidelines to bidders for online eligibility mentioned above.)

2.2 Bidders should not be associated, or have been associated in the past, directly or indirectly with a firm or any of its affiliates which have been engaged by the Rate Contracting Authority to provide consulting services for the preparation of the design, specifications and other documents to be used for the procurement of the goods to the Rate Contracting Authority under this Invitation of Bids.

2.3 Government owned enterprises in the Rate Contracting Authority’s country may participate only if they are legally and financially autonomous, if they operate under commercial law and if they are not a dependent agency of the Rate Contracting Authority.

2.4 The tenderers shall clarify/state whether he/they are manufacturer, accredited agent or sole representative indicating principals name & address. The offers of firms who are not manufacturer or direct authorized agent will be summarily rejected. Sub-distributors will not be accepted.

1. **Eligible Goods and Services**

3.1 All goods and ancillary services to be supplied under the Contract shall specify their country of origin.

3.2 For purposes of this clause, “origin” means the place where the goods are mined, grown, or produced or from which the ancillary services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembling of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.

3.3 The origin of goods and services is distinct from the nationality of the Bidder.

1. **Cost of Bidding**

4.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and **Chairman, Purchase Committee & Dean M.G.M. Medical College, Indore** hereinafter referred to as “**The Rate Contracting Authority**” will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

1. **The Bidding Documents**
2. **Contents of Bidding Documents**

5.1 The goods required, bidding procedures and contract terms are prescribed in the Bidding Documents. In addition to the Invitation for Bids, the Bidding Documents include:

1. Instructions to Bidders (ITB);
2. General Conditions of Contract (GCC);
3. Special Conditions of Contact (SCC);
4. Bid Form;
5. Annexure-I (Sales Tax Clearance Certificate);
6. Annexure-II (Manufacturer Authorization Form);
7. Annexure-III (Declaration / Undertaking Form);
8. Annexure-IV (Proforma for Performance Statement);
9. Annexure-V (Annual Turnover Statement);
10. Annexure-VI (Specifications of required KITCHEN EQUIPMENTS);
11. Annexure-VII (Performance Security Form);
12. Annexure-VIII (Contract Agreement Form);
13. Annexure-IX (Details of Manufacturing Unit);
14. Annexure-X (Price Schedule); (should be quoted online only)
15. Annexure-XI (Price Schedule for AMC (without spare parts) / CMC (include free labour, repair, other services & spare parts); and
16. Annexure-XII (Detail of Service Centre in M.P.);
17. Annexure-XIII (Check List)

5.2 The Bidder is expected to examine all instructions, forms, terms, specifications and annexure in the Bidding Documents. Failure to furnish all information required by the Bidding Documents or submission of a bid not substantially responsive to the Bidding Documents in every respect will be at the Bidder’s risk and may result in rejection of its bid.

5.3 The biding document is not transferable***.***

1. **Clarification of Bidding Documents**

6.1 If wishes, a prospective Bidder requiring any clarification of the Bidding Documents shall contact the Rate Contracting Authority in writing at the Rate Contracting Authority’s mailing address indicated in the invitation for Bids. The Rate Contracting Authority will respond in writing to any request for clarification of the Bidding Documents, which it receives not later than 15 days prior to the deadline fixed for submission of Bids and prescribed by the Rate Contracting Authority. Any correspondence with Rate Contracting Authority seeking any clarification regarding any matter contained herein shall not compel the Rate Contracting Authority to suspend the implementation of provision given hereunder or shall not mean a promise to change any provision in this tender document.

1. **Amendment of Bidding Documents**

7.1 At any time prior to the deadline fixed for submission of bids, the Rate Contracting Authority may, for any justifiable reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by amendment.

7.2 Any addendum issued shall be part of Bidding Documents and all the prospective bidders will be notified of the amendment by post or publication, and will be binding on them. The same shall be uploaded on the designated website.

7.3 In order to allow reasonable time to prospective bidders in which to take the amendment into account in preparing their bids or for any other reason, the Rate Contracting Authority at its discretion, may extend the deadline for the submission of bids.

1. **Preparation of Bids**
2. **Language of Bid**

8.1 The Bid prepared by the Bidder, as well as all correspondence and documents, printed literature and leaflets relating to the bid exchanged by the Bidder and the Rate Contracting Authority shall be written in English / Hindi language.

1. **Documents comprising the Bid**

9.1 The bid prepared by the Bidder shall comprise the following components:

1. A Bid Form and Price Schedule completed in accordance with ITB Clause 10, 11 and 12; **Price bid form should be filled online only. Technical Bid Envelope, EMD and cost of tender form instruments should be uploaded online as well as submitting hardcopies thereof.**
2. Documentary evidence established in accordance with ITB Clause 13 that the Bidder is eligible to bid and is qualified to perform the contract if its bid is accepted;
3. Documentary evidence established in accordance with ITB Clause 14 that the goods and services to be supplied by the Bidder are eligible goods and services and conform to the Bidding Documents; and
4. Bid Security furnished in accordance with ITB Clause 15.

The Bidders shall submit their Earnest Money Deposit as usual in a physically sealed **Earnest Money Deposit** Envelope and the same should reach the concerned office as stated in the Notice Inviting Tender by post.

The Bidders have to upload scanned copy of Earnest Money Deposit instrument along with the reference details.

1. **Bid Form**

10.1 The Bidder shall complete the Bid Form and shall also submit a hard copy thereof. The signing of Bid Form shall commit the Bidder to supply the ordered goods to the purchaser within 30 days of placing such order.

1. **Bid Prices**

11.1 Bid has been called for the equipments/machines given in the specification in Technical Annexure VI. The bidder should quote the price online only for the equipments/machine offered for. The specifications of the equipments/machines should be brand new unit as per details given in Annexure-VI. Any variation found will result in the rejection of the tender. In any case if price bid submitted manually or in CD than tender will be rejected.

11.2 Prices (inclusive of Excise Duty / Custom Duty, transportation, packing, insurance, installation, loading-unloading, warranty, service charge, inspection, and any incidental charges, but exclusive of CST***/***VAT) should be quoted for each of the required equipments etc., separately on door delivery basis according to the unit ordered. Tender for the supply of equipments etc. with cross conditions like “AT CURRENT MARKET RATES” shall not be accepted. Handling, clearing, transport charges etc. will not be paid. The delivery should be made as stipulated in the supply order placed with successful bidders. Conditional tenders will not be accepted.(Please note that Price Bid/ Financial Proposal is mandate to be online only if submitted in hard copy or in CD bid will be rejected. )

* 1. Each bid must contain the unit price of each equipment in digits as well as alphabets. Any discrepancy between the figures and words, the amount written in words will prevail. The tenders should be digitally signed online. The tenderers should take care that the rates and amounts are written in such a way that interpolation is not possible, no blanks should be left which would otherwise, make the tender redundant.
  2. The price quoted by the bidders shall not, in any case exceed the controlled price, if any, fixed by the Central/State Government and the Maximum Retail Price (MRP). Rate Contracting Authority at its discretion, will exercise, the right to revise the price at any stage, on lower side so as to confirm to the controlled price or MRP as the case may be. This discretion will be exercised without prejudice to any other action that may be taken against the bidder.
  3. To ensure sustained supply without any interruption the Rate Contracting Authority, reserves the right to split orders for supplying the requirements among more than one bidder, provided the prices and other conditions of supply are equal.
  4. The prices quoted and accepted will be binding on the bidder for the stipulated period (as per para I of introduction) and any increase in the price will not be entertained till the completion of this tender period or till further orders. Cross Conditions such as “SUBJECT TO AVAILABILITY” “SUPPLIES WILL BE MADE AS AND WHEN SUPPLIES ARE RECEIVED” etc., will not be considered under any circumstances and the tenders of those who have given such conditions shall be treated as incomplete and Tender will be summarily rejected.
  5. The price quoted should be inclusive of service tax (as per Govt. rules) on inspection and testing charges, which will be realized in advance from the bidders.

1. **Bid Currencies**

12.1 Prices shall be quoted in **Indian Rupees.**

1. **Documents establishing Bidder’s eligibility and qualifications**

13.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, documents establishing the bidder’s eligibility to bid and its qualifications to perform the Contract if its bid is accepted.

13.2 The documentary evidence of the Bidder’s eligibility to bid shall establish to the Rate Contracting Authority’s satisfaction.

13.3 The documentary evidence of the Bidder’s qualifications to perform the Contract if its bid is accepted, shall establish to the Rate Contracting Authority’s satisfactions:

1. Bids may be submitted by the primary manufacturer or their authorized distributor or importer for and on behalf of the primary manufacturer provided the bid is accompanied by a duly notarized letter of authority from the primary manufacturer. In case of authorized distributor the bidder should have minimum three years association with manufacturer. (as per authorization form given in Annexure II).
2. Documentary evidence for the Registration of the company with details of the Name, Address, Telephone Number, Fax Number, e-mail address of the firm and of the Managing Director / Partners / Proprietor and Name, Address, Telephone number, fax, e-mail of primary manufacturer.
3. The bidder shall submit printed original catalogues of primary manufacturer and any other technical documents like data sheet or operational manual of equipment with highlighting the features in portal along with the other documents. In catalogue, the quoted product no. and name should be highlighted and item code should also be written with catalogue, against which that product is quoted. These documents are also to be submitted in physical form before due date along with Bid security. Specification of equipments supplied should match the specification in catalogue.
4. The instruments such as power of attorney, resolution of board etc., authorizing an officer/person of the bidder should be submitted with the tender and such Authorized officer/person of the bidder should sign the tender documents.
5. Authorization letter nominating a responsible person of the bidder to transact the business with the Rate Contracting Authority.
6. The Bidder/manufacturer should have atleast three years manufacturing / distributorship experience. The Bidder should submit a list of user of quoted equipments manufactured by the Principal Manufacturer for last three years. These list should also contain the supplies related to the Govt. hospital / Medical Colleges / Public Sector undertaking / Undertaking hospital and other institutions of repute. Bidder should submit details of installation in Annexure IV.
7. The bidder should have at least one service centre in Madhya Pradesh, with a team of trained service engineer/technical staff the details in this regard as per Annexure-XII shall be submitted. In case at the time of tender service centre is not available in M.P., then he shall submit undertaking to establish the service centre before the award of contract. It shall be the duty of the seller to collect the equipment for repair / service & to replace it after such repair / servicing free of charge during warranty / guarantee period and will cover all such costs in the AMC / CMC.
8. The bidder shall submit the specification’s compliance / deviation report duly filled and signed which clearly bring out the deviation from the specification if any given in Annexure-VI.
9. Sales Tax/VAT/CST Clearance certificate, as on 31.03.2010 / 31.03.2011 / 31.03.2012 (as per form attached in Annexure-I).
10. Details of Manufacturing Unit I Annexure – IX. The details containing the name and address of the premises where the items quoted are actually manufactured.
11. Documents, if any, to show that the manufacturing unit/importer has been recognized, by WHO, UNICEF, ISO or any other Certificate etc.
12. The bidder shall furnish a notarized affidavit in the format given in Annexure-III declaring that the bidder accepts all terms and conditions of the tender.
13. Annual turnover (i.e. turnover for each year separately) in the last three financial years shall not be less than Rs. One Crore for Manufacturer and Rs. Fifty Lacs for the authorized distributor. Annual turnover statement for 3 years submitted in the format given in Annexure-V certified by the Auditor/CA.
14. In case of imported equipment IEC certificate of importer / bidder shall be submitted.
15. The bidder should also submit national and international quality certificates like ISI/CE/C” mark/IEC standard or equivalent certificate of quoted product, if available.
16. Concern / Company have not been debarred / blacklisted either by Rate Contracting Authority or by any State Government or Central Government Organization for the quoted product or as a whole. Affidavit to this effect shall be submitted by the concern / company.
17. Leaflets, literatures, should invariably be attached for ready reference clearly marking the item code no.
18. All documents should be self attested and stamped.
19. **Documents establishing Goods Eligibility and Conformity to Bidding Documents**

14.1 Pursuant to Clause 9, the Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the Bidding Documents of all goods and services, which the Bidder proposes to supply under the Contract.

1. **Bid Security**

15.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, the bid security which shall be Rs. 2.00 Lakhs (Rs. Two Lakhs). No concession / exemption shall be allowed. F.D.R. should be attached. Scan Copy of same instrument should be uploaded online too.

15.2 The bid security is required to protect the Rate Contracting Authority against risk of Bidder’s business conduct which would warrant the security’s forfeiture, pursuant to ITB clause 15.7.

15.3 The bid security shall be in Indian Rupees and shall be in form of Fixed Deposit for 18 months in favour of Dean, M.G.M. Medical College, Indore***.***

15.4 Any bid not secured in accordance with ITB Clause 15.1 and 15.3 above will be rejected by the Rate Contracting Authority as non-responsive, pursuant to ITB Clause 23.

15.5 Unsuccessful Bidder’s bid security will be discharged / returned as promptly as possible upon the successful Bidders signing the Contract, pursuant to ITB Clause 31 or after the expiration of the period of bid validity prescribed by the Rate Contracting Authority pursuant to ITB clause 16. No interest is payable on bid security.

15.6 The successful Bidder’s bid security will be discharged upon the Bidders signing the Contract, pursuant to ITB Clause 30, and furnishing the performance security, pursuant to ITB Clause 31. No interest is payable on bid security.

15.7 **The bid security may be forfeited**:

a. If a bidder

(i) withdraws its bid during the period of bid validity specified by the Bidder on the Bid Form;

b. In case of a successful Bidder, if the Bidder fails:

(i) to sign the Contract in accordance with ITB Clause 30; or

(ii) to furnish performance security and Inspection Charges in accordance with ITB Clause 31.

1. **Period of Validity of Bids**

16.1 Quoted Prices of Bids shall be valid for 180 (One hundred eighty) days after the date of bid opening prescribed by the Rate Contracting Authority pursuant to ITB clause 21. A bid valid for a shorter period shall be rejected by the Rate Contracting Authority as non-responsive. This price on acceptance shall remain fixed till contract period or till further order.

16.2 In exceptional circumstances, the Rate Contracting Authority may solicit the Bidder’s consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. A Bidder may refuse the request without forfeiting its bid security. A bidder granting the request will not be required nor permitted to modify its bid.

16.3 No bid may be modified subsequent to the deadline for submission of Bids.

16.4 No Bid may be withdrawn in the interval between the deadline for the submission of Bids and expiration of the period of bid validity specified by the Bidder on the Bid Form. Withdrawal of a bid during this interval may result in the Bidders forfeiture of its bid security pursuant to ITB Sub-clause 15.7.

1. **Submission of Bids**
2. **Bid Stages**

17.1 Bid should be submitted in following system and should furnish the following documents failing which their bid shall not be accepted:-

**Envelope – A: Tender fee and E.M.D.**

**(Tender fee in the form of D.D. only)**

1. The Bidders shall submit their Tender fee Rs.5,000/- in form of a Demand Draft in the name of “Dean, M.G.M. Medical College, Indore” payble at Indore in a separate physically sealed Envelope clearly marked **“Tender Fee”**and the same should reach the concerned office as stated in the Notice Inviting Tender by post. The Bidders have to upload scanned copy of the Tender fee in form of Demand Draft instrument along with the reference details..

**(E.M.D. in the form of F.D.R. only)**

(2) The Bidders shall submit their Earnest Money Deposit as usual in a

physically sealed Envelope and the same should reach the concerned office as stated in the Notice Inviting Tender by post. The Bidders have to upload scanned copy of Earnest Money Deposit instrument along with the reference details..

1. Fixed Depositfor 18 Months as bid security which shall be Rs. 2.00 Lakh (Rs. Two Lakh only) tendered for as E.M.D. issued by Nationalized bankin the name of the Dean, MGM Medical College, Indore, payable at Indore (refundable). (Any other example D.D. / Cheque will not be accepted).

* **Without submission of E.M.D. the tender will be summarily rejected as per rules.**
* **In no case the tender cost fee should be mixed with E.M.D. amount. Fee cost is not refundable.**

**Envelop – B: (Technical Bid)**

1. Technical bid should be submitted online as well as with two additional self certified copies (total 3 copies)for the quoted equipments etc. should be signed and stamped on each page. (ANNEXURE-VI). The bidder shall submit the specification’s compliance / deviation report duly filled and signed which clearly bring out the deviation from the specification if any given in Annexure-VI. Format of technical bid is available in tender document and bidder should provide technical bid in MS office version 97 in C.D. and has to be submitted along with the hard copy by the bidder in Envelope B.
2. List of name and address where supply of the quoted equipments has been made.
3. Literature of original catalogue of the product attached for reference.
4. Guarantee / warrantee.
5. Sales Tax/VAT/CST Clearance certificate, as on 31.03.2010, 31.03.11, 31.03.12 (as per form attached in Annexure-I).
6. Annexure-II (Manufacturer Authorization Form)
7. Annexure-III (Undertaking Form / Declaration Form)
8. Annexure-IV (Proforma for Performance Statement). A list of user of quoted equipments by the Principal Manufacturer for last three years. These list should also contain the supplies related to the Govt. hospital / Medical Colleges / Public Sector undertaking / Undertaking hospital and other institutions of repute. Bidder should submit details of installation in Annexure IV.
9. Annexure-V (Annual Turnover Statement)
10. Annexure – IX (Details of Manufacturing Unit)
11. Annexure – XII (Details of Service Centre in M.P.)
12. Registration Certificate of the company with details of the Name, Address, Telephone Number, Fax Number, e-mail address of the firm and of the Managing Director / Partners / Proprietor.
13. Authorization letter from manufacturer authorizing a person to transact a business with R.C.A.
14. The instruments such as power of attorney, resolution of board etc., authorizing an officer/person of the bidder should be submitted with the tender and such Authorized officer/person of the bidder should sign the tender documents.
15. Market Standing Certificate issued by the Licensing Authority as a Manufacturer / distributor for each equipment quoted for the last 3 years. In case of direct importer, evidence for importing the said items for the last three years.
16. The bidder should also submit national & international quality certificates like ISI/CE/C ISO-9002, IP/BP etc” mark / IEC standard or equivalent certificate of quoted product, if available.
17. Concern / Company have not been debarred / blacklisted either by Rate Contracting Authority or by any State Government or Central Government Organization. Affidavit to this effect shall be submitted by the concern / company.
18. Original price Bid and other Form duly digitally signed online by authorized signatory and physical document as per Section V, duly sealed and signed by the bidder on each page for acceptance of Terms and Conditions.
19. Bidders should have the registration under Commercial Tax Authority, Registration should be attached.
20. Affidavit that the firm has no vigilance case / CBI case pending against him / supplier.
21. Affidavit that the firm has not supplied the same item (**configuration / specification)**  at the lower rate than quoted in the tender to any Govt. / Semi Govt. or any other organization.
22. Certificate for being in business or more than 3 years.
23. Certificate for sole ownership / partnership and establishment relationship.
24. Statement of good financial standing from bankers.
25. The printed original catalogues of primary manufacturer and any other technical documents like data sheet or operational manual of equipment with highlighting the features in portal along with the other documents. In catalogue, the quoted product no. and name should be highlighted, against which that product is quoted. These documents are also to be submitted in physical form before due date along with Bid security.
26. In case of imported equipment IEC certificate of importer / bidder shall be submitted.
27. A separate price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warrantee period.
28. Recurring expenditure on equipments.

Both envelops sealed in main envelop i.e. marked **ENVELOP–D “TENDER FOR EQUIPMENTS ETC. FOR P.C.**” *All the envelopes A, B, D must be Wax sealed using sealing Wax and official seal, sealed cello taped, moisture free and strong. All the enclosures and photocopies should be self certified and stamped.*

* + 1. Reference No. of the tender \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    2. Tender regarding \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    3. Due date of submission of tender form \_\_\_\_\_\_\_\_
    4. Due date for opening of the tender \_\_\_\_\_\_\_\_\_\_\_
    5. Name of the firm \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**NOTE : TENDER SUBMITTED WITHOUT FOLLOWING THE ABOVE PROCEDURES WILL BE SUMMARILY REJECTED.**

**Envelop – C: (Financial Bid)**

**Financial Bid / Price Proposal should be submitted online only, in case if the price bid is sent physically or in CD as a soft copy the bid will be out through rejected.**

**Envelop – D: (Main Tender Envelop)**

* 1. Envelop A & B.
  2. **PRICE BID –**

The Bidder should furnish the following:-

1. The rate quoted online only as per unit (landed price) in Annexure-X (Suggested sample proforma of price schedule in this tender document is for inspection and not for physical submission or in CD) shall be inclusive of Excise Duty / Custom Duty, freight, packing, insurance, inspection & testing charges etc. exclusive of VAT and should be F.O.R. point of installation on turn key basis.
2. The rate quoted in column 8 of Annexure-X should be filled online(Suggested sample proforma of price schedule in this tender document is for inspection and not for physical submission or in CD) should be for a unit and given specification. The Bidder is not permitted to change / alter specification or unit size given in the Annexure-X.
3. Bidder has to quote rates online only strictly for the items which are mentioned in the tender.
4. Rates quoted for items other than mentioned in the tender form then that particular item will not be entertained.
5. The rates of each item should be quoted in figures as well as in words also otherwise the tender is liable to be rejected.
6. The bidder shall also quote charges for Annual Maintenance Contract (without spare parts) / Comprehensive Maintenance Contract (include free labour, repair, other services & spare parts) for the next five years after the expiry of five years warranty/gurantee period in Annexure-XI. AMC should be quoted for equipments costing upto Rs.5.00 Lacs and CMC should be quoted for equipments costing more than Rs.5.00 Lacs.
7. The bidder should quote equipments which will have guarantee / warranty of atleast 5 years, equipments which have less than 5 years warranty will not be entertained and so should not be quoted.
8. Bidder should show recurring expenditure of each equipment separately.
9. The price bid should be submitted online as prescribed in online form only. In case price bid / financial bid is submitted manually or in CD than bid will be rejected.
10. **Deadline for Submission of Bids**
    1. Bids will not be accepted after the time and date specified in the invitation for Bids (Section I).
    2. The Rate Contracting Authority may, as its discretion, extend the deadline for submission of bids by amending the Bid Documents in accordance with ITB Clause 7, in which case all right and obligations of the Rate Contracting Authority and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.
    3. The Rate Contracting Authority will not be responsible for any delay or non-receipt of tender documents.
11. **Late Bids**
    1. No Bid can be submitted after the last date and time of submission of bid.
12. **Modification and withdrawal of Bids**
    1. The Bidder may modify or withdraw their bid before Last Date and time of submitting bid hash online, before completing Submit Bid Hash Online stage. Once the said stage shows to be completed, no modifications can be made by bidder.
    2. No bid may be modified subsequent to the deadline fixed for submission of bids hash online.
    3. No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Form or any extension thereof. Withdrawal of a bid during this interval may result in the Bidder’s forfeiture of its bid security, pursuant to ITB Clause 15.7.
13. **Bid Opening and Evaluation of Bids**
14. **Opening of Bids by the Rate Contracting Authority**

Opening of Bid process:

* 1. Bid will be opened online as per key schedule on the day, date & place specified by the Rate Contracting Authority.
  2. All bidders are entitled to be present at the date, time & place for opening of Bids.
  3. Only one representative of each Bidder is entitled to remain present at the time of bid opening. Bidder’s representative who is present shall sign a register evidencing his/her attendance. In the event of the specified date of Bid opening being declared a holiday for the Rate Contracting Authority, the Bids shall be opened at the appointed time and location on the next working day. Such representative must be present with original authority letter issued by the bidder with ID proof in support thereof.
  4. Opening of bid will be sequential process.
  5. Bids will be opened in the presence of Bidder’s representatives who choose to attend on the specified date and time fixed for opening the bid. Envelop D containing envelop A & B documents will be opened, out of which envelop A will be immediately opened online and physically. Documents together with contents of envelop A will be subject to scrutiny, those bidders whose documents and contents are as per tender conditions will only be deemed qualified for opening of technical bid. The date and time of opening of technical bid (envelop B) will be made available on website within a week of opening of bid and will be communicated simultaneously to those who qualify for opening of bid. Technical and Price bid will be submitted online and envelope B will be submitted in hard copy too. Technical Bid will be evaluated as per specification and NCB terms and conditions by the Technical Committee. Those bidders who qualify for the technical bid will be invited for demonstration of equipment on the day, date & place specified by R.C.A. The bidders will have to demonstrate the equipments on the date, day and place specified, failing which their bid will be rejected. Thereafter, Price Bid (envelop C) will be opened online only for those bidders whose bid will be found technically responsive after demonstration. Opening of date of price bid will be communicated online only at <http://dme.mpeprocurement.gov.in> those who qualify and will be displayed on the specified website.
  6. The Bidders’ names, presence or absence of the requisite bid security will be announced at the opening of Technical Bid.
  7. Bidders who were found eligible on satisfying the criteria for technical evaluation and inspection by the technical committee can only be invited to be present at the date and time for opening of Price Bid of the tender.

1. **Clarification of Bids**
   1. During evaluation of bids, the Rate Contracting Authority may, at its discretion, ask the Bidder for clarification of its Bid. Any clarification submitted by a bidder in respect to its bid and that is not in response to a request by the Rate Contracting Authority shall not be considered. The request for clarification and the response shall be in writing and no change in prices or substance of the bid shall be sought, offered or permitted except to confirm the correction of arithmetic errors discovered by the Rate Contracting Authority in the evaluation of the bids.
2. **Preliminary Examination**
   1. The Rate Contracting Authority will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether all documents are there,whether the documents have been properly signed, and whether the bids are generally in order.
   2. The Rate Contracting Authority may waive any minor informality or non-conformity or irregularity or omissions in a bid which does not constitute a material deviation, provided such a waiver does not prejudice or affect the relative ranking of any Bidder.
   3. Prior to the detailed evaluation, pursuant to ITB Clause 24, the Rate Contracting Authority will determine the substantial responsiveness of each bid to the bidding documents. For purposes of these Clauses, a substantially responsive bid is one which conforms to all the documents, terms, conditions and specifications of the bidding documents without material deviations. The Rate Contracting Authorities determination of a bid’s responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.
   4. If a bid is substantially responsive, the Rate Contracting Authority may request that the bidder submit the necessary information or documentation, within a reasonable period of time to rectify nonmaterial nonconformities or omissions in the bid related to documentation requirements. Such omissions shall not be related to any aspect of the price of the bid. Failure of the bidder to comply with the request within the stipulated time may result in the rejection of its bid.
   5. If a bid determined as not substantially responsive, it will be rejected by the Rate Contracting Authority and may not subsequently be made responsive by the bidder by correction of the non-conformity.
3. **Evaluation and Comparison of Bids**
   1. The Rate Contracting Authority will evaluate and compare the bids previously determined to be substantially responsive, pursuant to Clause 23. Bids will be evaluated with reference to various criteria as specified in bid document and one of such criteria is that the rate per unit of (landed price) i.e. rate per item for determining the L1 rate (Lowest rate).
   2. Purchase will also be made from SC / ST firms as per Madhya Pradeh State Government rules.
4. **Contacting the Rate Contracting Authority**
   1. Subject to ITB Clause 22, no Bidder shall contact the Rate Contracting Authority on any matter relating to its bid, from the time of the bid opening to the time Rate Contract is awarded.
   2. Any effort by a Bidder to influence the Rate Contracting Authority in its decisions on bid evaluation, bid comparison or contract award may result in rejection of the Bidder’s bid. If the bidder wishes to bring additional information to the notice of the Rate Contracting Authority, it should do so in writing.
5. **Award of Contract**
6. **Post Qualification**
   1. Based on the qualification criteria listed in ITB Clause 13, the Rate Contracting Authority will determine to its satisfaction whether the Bidder selected as having submitted the lowest evaluated responsive bid is qualified to satisfactorily perform the Contract.
   2. The determination will take into account the Bidder’s financial, technical, and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder’s qualifications submitted by the Bidder. Pursuant to ITB Clause 13, as well as such other information as the Rate Contracting Authority deems necessary and appropriate.
   3. The Rate Contracting Authority shall ask for demonstration whereable applicable of the quoted kitchen equipment. The cost of demonstration shall be born by the bidder. Day, date & place of demonstration shall be decided by Rate Contracting Authority.
   4. An affirmative determination will be prerequisite for award of the Rate Contract to the Bidder. A negative determination will result in rejection of the Bidder’s bid in which event the Rate Contracting Authority will proceed to the next bid to make a similar determination of that Bidder’s capabilities to perform the contract satisfactorily.
   5. The tenderers shall demonstrate whereable applicable the quoted model of the equipments during the technical evaluation on the day, date & place specified.

1. **Award Criteria**
   1. Subject to ITB Clause 29 – The Rate Contracting Authority will award rate contract to the successful bidders on lowest evaluated prices or the price approved by the Purchase Committee.
2. **Purchaser’s Right to vary Quantities**
   1. The details of the required equipments etc. are shown in Annexure-VI. The quantity mentioned is only the tentative requirement and may increase or decrease as per the decision of the Purchaser. The rates quoted should not vary with the quantum of the order or the destination.
3. **Rate Contracting Authority’s Right to Accept any Bid and to Reject any or all bids**
   1. The Rate Contracting Authority reserves the right to accept or reject the tender for the supply of all items of equipments or for any one or more of the items of equipments tendered for in a tender without assigning any reason, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Rate Contracting Authority’s action.
4. **Notification of Rate Contract**
   1. Prior to the expiration of the period of bid validity, the Rate Contracting Authority will notify the successful Bidder in writing by registered letter or fax or e-mail, that its bid has been accepted.
   2. The notification of Rate Contract will constitute the formation of the Contract.
   3. Upon the successful Bidder’s signed Rate Contract pursuant to ITB Clause 31, the Rate Contracting Authority will promptly notify each unsuccessful Bidder and will discharges its bid security, pursuant to ITB Clause 15.
   4. If, after notification of rate contract, a Bidder wishes to ascertain the grounds on which its bid was not selected, it should address it’s request to the Rate Contracting Authority. The Rate Contracting Authority will promptly respond in writing to the unsuccessful Bidder.
5. **Signing of Rate Contract (Agreement)**
   1. At the same time the Rate Contracting Authority will inform to the successful Bidder that its bid has been accepted the Rate Contracting Authority will send the Bidder the Rate Contract Form provided in the bidding document incorporating all agreements between the parties.
   2. Within 10 days of receipt of the Notification of Rate Contract, the successful Bidder shall sign and date the Contract on a non-judicial stamp paper of value of Rs.100/- (stamp duty to be paid by the Bidder) and return it to the Rate Contracting Authority.
   3. The validity of Rate Contract will be one year and may be extended for further period as agreed mutually unless revoked.
6. **Performance Security & Inspection Charges**
   1. Within 15 days of the receipt of firm order from the Rate Contracting Authority or the date specified by the purchaser, the successful Bidder shall furnish the performance security and inspection charges in accordance with the Clause 7 & 8 of General Conditions of Contract.
   2. Failure of successful bidder to comply with the requirement of ITB Clause 31 or ITB Clause 32.1 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security/previously deposited performance security and disqualify the firm to participate in the tender for the next five years.
7. **Placement of Supply Order**
   1. After finalization of the contract, the successful bidders may be asked to submit the delivery schedule as per requirement of the Purchaser. While placement of orders, the schedule given to the bidders, along with the other conditions stated at ITB 27.1 will be considered.
   2. To ensure sustained supply without any interruption the Purchaser, reserves the right to split orders for supplying the requirements among more than one L-1 bidder.
8. **Corrupt or Fraudulent Practices**
   1. For the purpose of this provision, the terms set forth as follows:
9. “Corrupt practice” means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution, and
10. “Fraudulent practice” means a mis-presentation / hiding of facts in order to influence a procurement process or the execution of a contract to the detriment of the other bidders, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial noncompetitive levels and to deprive the other bidders of the benefits of free and open competition;
11. Will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practice in competing for the contract in question.
12. Will declare a firm ineligible, either indefinitely or for a stated period of time, to be allowed to participate, awarded a contract if at any time determines that the firm has engaged in corrupt or fraudulent practice in competing for, or in executing, a contract.
    1. Furthermore, Bidders shall be aware of the provision stated in sub clause 21.4 of the General Conditions of contract.

**SECTION III:**

**GENERAL CONDITIONS OF CONTRACT (GCC)**

**SECTION III:**

**GENERAL CONDITIONS OF CONTRACT (GCC)**

**TABLE OF CLAUSES**

|  |  |  |
| --- | --- | --- |
| **Clause Number** | **Topic** | **Page Number** |
| 1. | Definitions | 33 |
| 2. | Applications | 34 |
| 3. | Country of Origin | 34 |
| 4. | Standards | 34 |
| 5. | Use of Contract documents and information | 35 |
| 6. | Patent Rights | 36 |
| 7. | Performance Security | 36 |
| 8. | Inspection and Tests | 36 |
| 9. | Packing | 37 |
| 10. | Delivery and Documents | 38 |
| 11. | Insurance | 38 |
| 12. | Transportation | 38 |
| 13. | Warranty | 39 |
| 14. | Payment | 41 |
| 15. | Prices | 41 |
| 16. | Change orders | 42 |
| 17. | Contract Amendments | 42 |
| 18. | Assignment | 42 |
| 19. | Delays in the Supplier’s Performance | 42 |
| 20. | Liquidated Damages | 43 |
| 21. | Termination for Default | 43 |
| 22. | Force Majeure | 45 |
| 23. | Termination for insolvency | 45 |
| 24. | Termination for Convenience | 45 |
| 25. | Resolution of Disputes | 46 |
| 26. | Limitation of Liability | 46 |
| 27. | Governing Language | 47 |
| 28. | Applicable Law | 47 |
| 29. | Notices | 47 |
| 30. | Taxes and Duties | 47 |
| 31. | Fall Clause | 48 |
| 32. | Jurisdiction | 49 |

**General Conditions of Contract**

* 1. **Definitions**
  2. In this Contract, the following terms shall be interpreted as indicated:

1. “Rate Contract” means the agreement entered into between the Rate Contracting Authority and the Supplier, as recorded in the Contract Forms signed by the parties, including all the attachments and appendices thereto and all documents incorporated by reference therein for supply of material in agreed time period.
2. “Price” means the price payable to the Supplier for the full and proper performance of its contractual obligations.
3. “Goods” means all the equipments etc., which the supplier is required to supply to the purchaser under the Contract.
4. “Services” means services ancillary to the supply of the Goods, such as transportation and insurance and any other incidental services, and other obligations of the Supplier covered under the Contract.
5. “GCC” means the General Conditions of Contract contained in this section.
6. “SCC” means the Special Conditions of Contract.
7. “The Purchaser” means the The Deans of Govt. Medical Colleges and Associated Hospitals of Indore, Bhopal, Gwalior, Jabalpur, Rewa & Sagar purchasing the goods, as named in SCC.
8. “The Purchaser’s Country” is the country named in SCC.
9. “The Supplier” means the individual or firm supplying the Goods and Services under this Contract.
10. “Chairman, PC” means Chairman, Purchase Committee which is Dean, M.G.M. Medical College, Indore
11. “Rate Contracting Authority” means the Chairman, Purchase Committee.
12. “The Project Site” where applicable, means the place or places named in SCC.
13. “Day” means calendar day.
    1. **Applications**
    2. These General Conditions shall apply to the extent that they are not superseded by provisions in other parts of the Contract.
    3. **Country of Origin**
    4. All goods and services supplied under the Contract shall be specified their country of origin.
    5. For purpose of this Clause “origin” means the place where the Goods are mined, grown or product, or from which the Services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembling of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.
    6. The origin of Goods and Services is distinct from the nationality of the Supplier.
    7. **Standards**
    8. The Goods supplied under this Contract shall confirm to the standards mentioned in the Technical Specifications and when no applicable standard is mentioned, latest standards agreeable to Rate Contracting Authority should be supplied.
    9. Genuine Equipments must be supplied. Tenderers should indicate the source of supply i.e. name & address of the manufacturers from whom the items are to be imported.
    10. While quoting the rates of Equipments as enclosed list, the name of the manufacturer, must be mentioned otherwise the tender is liable to be rejected.
    11. The rates of every item should be quoted from standard and well reputed firms / companies and they should be minimum possible.
    12. For Equipments means should bear quality assurance certification like ISO 9002 of CE Mark of ISI standardization.
    13. Software and Hardware **Update – Free Digital Update of software (all update)** upto 5 years.
    14. Voltage stabilizer & digital technology should be supplied with the equipments required it.
    15. Technical specification of equipments / work mentioned is basic, however, equipments of higher specifications may be quoted at no extra cost.
    16. No change in make/manufacturer will be allowed at the time of supply. Changes resulting out of technology upgradation of the same manufacturer can be permitted at no extra cost.
    17. Circuit diagram with operator’s and service manual must be enclosed along with the equipment.
    18. Names of the institution in India, where quoted equipment / work has been supplied / installed / done during last three years must be attached. Also number of units sold in India must be informed in writing.
    19. The Bidders are not allowed to quote for equipments / components with less than desire specification. Deviation from specification on lower / negative side shall not be considered if at any time during evaluation / after supply of equipments / components are found below specification EMD / performance guarantee shall be forfeited and action will be taken for black listing.
    20. Latest models which fulfills this tender’s specifications must be quoted.
    21. An affidavit of the manufacturer duly notarized on Non Judicial stamp paper must be enclosed to guarantee supply of all spare parts for 5 years beyond guarantee / warranty period must be enclosed. The manufacturer must submit an authorized price list of genuine spare parts / standard parts and must also mention in the above affidavit that they will ensure sending any revised price list in the event of award of contract which requires AMC / CMC.
    22. Tenders of refurbished equipments / machineries will not be accepted. The bidder must give an affidavit on a duly notarized Non judicial stamp paper that the quoted equipment / machine is not refurbished.
    23. **Use of Contract documents and information**
    24. The supplier shall not, without the Rate Contracting Authority’s prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the Rate Contracting Authority in connection therewith, to any person other then a person employed by the supplier in performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extent only so far as may be necessary, for purposes of such performance.
    25. The Supplier shall not, without the Rate Contracting Authority’s prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for the purposes of performing the Contract.
    26. Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Rate Contracting Authority and shall be returned (in all copies) to the Rate Contracting Authority on completion of the Supplier’s performance under the contract if so required by the Rate Contracting Authority.
    27. **Patent Rights**
    28. The Supplier shall indemnify the Rate Contracting Authority against all third-party claims of infringement of patent, trademark or industrial design rights arising from use of the Goods or any part thereof in India.
    29. **Performance Security**
    30. The supplier shall furnish performance security in the amount specified in SCC 2.1 to the purchaser as specified in GCC 1.1 (g).
    31. The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the Supplier’s failure to complete its obligations under the Contract.
    32. The Performance Security shall be denominated in Indian Rupees and shall be in the form of FDR/Bank Guarantee of Nationalized Bank located in India in the prescribed form provided in bidding document or another acceptable to the purchaserin favour of Purchaser till completion of warranty period.
    33. The performance security will be discharged by the purchaser and returned to the Supplier not later than 60 days following the date of completion of the Supplier’s satisfactory performance obligations, including warranty obligations, unless specified otherwise in SCC.
    34. **Inspection and Tests**

If purchaser wishes:

* 1. The purchaser or its representative shall have the right to inspect and/or test the Goods to confirm their conformity to the contract. The Special Conditions of Contract and/or the Technical Specification shall specify what inspections and tests the purchaser requires and where they are to be conducted. The purchaser shall notify the Supplier in writing of the identity of any representatives retained for these purposes.
  2. The Supplier shall notify the purchaser or its representative at least 10 days prior to the date when Goods are available for inspection.
  3. The Supplier will provide to the purchaser or its representative all reasonable facilities for the conduct of such inspections and tests at no additional cost to the purchaser. The Supplier may seek an independent quality test report for batch ready for shipment. The cost of such tests will be borne by the Supplier.
  4. Where the Supplier contests the validity of the rejection by the purchaser or his representative, whether based on product or packing grounds, a sample drawn by the Inspection Authority will be forwarded for analysis to an independent technical inspection. The Finding, which will be promptly obtained, will be final and biding on both the parties. The cost of umpire analysis will be borne by the losing party.
  5. The Purchaser’s right to inspect, test and where necessary, reject the Goods after the Goods arrival in at Site shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by the purchaser or its representative prior to the Goods shipment from the country of origin.
  6. Nothing in Clause 8 shall in any way release the supplier from any warranty or other obligations under this Contract.
  7. **Packing**
  8. The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate the remoteness of the Goods final destination and the absence of heavy handling facilities at all points in transit.
  9. The packing marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be provided for in the contract including additional requirements, if any, specified in SCC, Technical specification and in any subsequent instruction ordered by the Purchaser.

* 1. **Delivery and Documents**
  2. The supply should be completed within 30 days **for indigenous equipment and 120 days for imported equipment** from the date of supply order unless otherwise specified in the supply order. Purchaser will place order by fax &/or e-mail &/or speed post.
  3. It shall be the responsibility of the Supplier to make good for any shortage/damage at the time of receipt at designated place.
  4. The details of shipping and/or other documents to be furnished by the Supplier are specified in SCC.
  5. The delivery of Equipments should be made at the point / place specified by the Purchaser in Purchase Order.
  6. The successful bidders should strictly adhere to the following delivery schedule Supply, Installation & Commissioning on turn key basis should be effected within a fortnight from the date of supply and this clause should be strictly adhere to failing which necessary administrative action as deemed fit under rules will be taken against the defaulter.
  7. Supply must be toto i.e. not in fraction.
  8. **Insurance**
  9. The Goods supplied under the contract shall be fully insured in Indian Rupees against the loss or damage incidental to manufacture, acquisition, transportation, storage, delivery, installation and test running in the manner specified in SCC.
  10. **Transportation**
  11. Where the Supplier is required under the Contract to transport the Goods to project site, including insurance as shall be specified in the Contract shall be arranged by the Supplier, and the related cost shall be included in the Contract Price.
  12. The loss or damage of material whatsoever, whether insured or not, during transit shall be made good by bidder free of charge, failing which the losses will be deducted from their bill / performance security.
  13. Wharf age, demurrages etc. on account of incorrect or delayed dispatch of material or documents shall be the responsibility of the supplier and shall be recovered from his bill / performance security.
  14. **Warranty**
  15. The Bidder shall provide on site warranty/gurantee of the equipment for the period of five years from the date of installation. Warranty will cover services, repairs, maintenance, replacement of spare parts, broken / damaged / worn out spare parts and other services free of cost during the whole warranty period of five years. The warranty shall also include “on call service” which should not exceed 48 hours from the date of lodging of complaint. The purchaser shall have the right to get the work done at the cost of bidder’s responsibility, if machine is not repaired within 48 hours.
  16. The Purchaser shall promptly notify the Supplier in writing of any claims arising under the warranty.
  17. Upon receipt of such notice, the Supplier shall, with all reasonable speed, replace the sub standard equipments, without cost to the Purchaser.
  18. If the Supplier, having been notified, fails to remedy the defect(s) within seven days, the Purchaser may proceed to take such remedial actions as may be necessary, at the Supplier’s risk and expense and will have right to impose penalty without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.
  19. The stores supplies shall be strictly in accordance with the Specifications / Standards and shall be of the best quality. The stores are demanded to carry the Supplier’s own guarantee of the items by the consignee.
  20. If at any time during/after the supply if equipment is not found as per specification, sub standard or refurbished the bidder shall replace defective equipment at his own cost, immediately, failing which the total amount is recoverable from him and he will be black listed.
  21. UPTIME GUARANTEE: The firm should provide uptime guarantee of 95%.
  22. **Downtime penalty Clause**:

During the Guarantee / Warranty period, desired uptime of 95% of 365 days (24 hours), if downtime exceeds 5%, penalty in the form of extended warranty, double the number of days for which the equipment goes out of service will be applied. The vendor must undertake to supply all spares for optimal upkeep of the equipments for at least 10 years after handing over the unit to the Institute. If accessories /other attachment of the system are procured from the third party , then the vendor must produce cost of accessory/other attachment and the AMC / CMC from the third party separately along with the main offer and the third party will have to sign the AMC / CMC with the Purchaser if required. In no case instrument should remain in non – working condition for more than 5 days, beyond which a penalty of **0.2 % (zero point two percent)** of machine cost will be charged per day. The Principals or their agents are required to submit a certificate that they have satisfactory service arrangements and fully trained staff available to support the uptime guarantee.

* 1. **Guarantee / Warranty period**: The tenderers must quote for 5 years warranty from the date of completion of the satisfactory installation. The Warranty charges shall not be quoted separately otherwise the offer shall be summarily rejected. Also the Bidders should submit their quote for subsequent 5 years AMC (without spare parts) / CMC (include free labour, repair, other services & spare parts). Failure to comply this condition will entail the rejection of the Bids. The price comparison shall be made taking into account on basic price and post warranty AMC / CMC. The Rate Contracting Authority reserves the right to award AMC / CMC. A.M.C. (without spare parts) shall be quoted for equipments costing upto Rs.5.00 Lacs and C.M.C. (include free labour, repair, other services & spare parts) shall be quoted for equipments costing above Rs.5.00 Lacs. So the price of AMC / CMC should be quoted according to the cost of equipment.
  2. **SPARE PARTS**: The spare parts should be of standard quality. The bidder must take guarantee of availability of supply of spare parts upto 5 years beyond the warranty / gurantee period and must submit affidavit as per GCC clause 4.13.
  3. **TRAINING**: Training of equipments within the stipulated time should be done by the suppiler at his cost. The time & place of training shall be stipulated by purchaser. Training should be of 2 doctors and 2 technicians of user department.
  4. The tenderers should clearly indicate the name of manufacturer, country of origin, place of shipment/air freightment etc.
  5. Local agents quoting on behalf of their foreign suppliers must attach authority letter in their favour.
  6. Successful tenderers will have to furnish performance Bank Guarantee for 10% contract value from any Nationalized Bank valid for the warranty period.
  7. The rates quoted for the Stores/Equipments, under the reference, by the supplier shall in no event exceed the lowest price at which the suppliers of the Stores / Equipments of identical description are made to any other person / organization / institution during the period and should attach an undertaking **(duly notarized)**.
  8. Equipment should be brand new & of latest technology along with digital technique wherever applicable.
  9. The Rate Contracting Authority reserves the right to increase the accessories and their numbers, payment will be made only for ordered accessories.

**14. Payment**

* 1. The method and conditions of payment to be made to the Supplier under the contract shall be specified in the SCC.
  2. The Supplier’s request(s) for payment shall be made to the Purchaser in writing accompanied by an invoice describing, as appropriate, the Goods delivered and the service performed, and by documents, submitted pursuant to GCC Clause 10, and upon fulfillment of other obligations stipulated in the contract.
  3. Payments shall be made by the Purchaser after submission of the claim by the Supplier. All sincere efforts will be made for payment of due amount which has been submitted to the purchaser within 30 days unless the situation being out of control of the purchaser. Proforma invoice should also be submitted.
  4. Payment shall be made in Indian Rupees.
  5. The payment of the claim / bill will be made after deduction of VAT as per rules of M.P. Commercial Tax Act Section 34 and other taxes from the bill.
  6. No payment shall be made for rejected Stores. Rejected items must be removed by the supplier within two weeks of the date of rejection at their own cost and replace immediately. In case these are not removed these will be auctioned at the risk and responsibility of the suppliers without any notice.
  7. Supply of equipments means – installation and commissioning and also test running at site. No separate charges will be paid separately on this account.
  8. Payment will be made after installation, commissioning and successful test running at the site, due verification and subsequent satisfactory report of the user department.

**15. Prices**

* 1. Prices charged by the Supplier for Goods delivered and Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid.
  2. Recurring expenditure of the machine / equipment should be mentioned.

**16. Change orders**

* 1. The Rate Contracting Authority may at any time, by written order given to the Supplier pursuant to GCC Clause 29 make changes within the general scope of the Contract in any one or more of the following:
     + - 1. the method of shipping or packing, installation;
         2. Any other terms & conditions in public interest.
  2. If any such change causes an increase or decrease in the cost of, or the time required, for the Supplier’s performance of any provision under the Contract, and equitable adjustment shall be made in the Contract Price or delivery schedule or both and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within fifteen (15) days from the date of the Supplier’s receipt of the Purchaser’s change order.
  3. The Purchase Orders on approved rates will be placed by the Purchaser.

**17. Contract Amendments.**

* 1. Subject to GCC Clause 16, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by both the parties.

**18. Assignment**

* 1. The Supplier shall not assign, in whole or in part, its obligations to perform under the Contract, except with the Purchaser’s prior written consent.

**19. Delays in the Supplier’s Performance**

* 1. Delivery of the Goods and performance of the Services shall be made by the Supplier in accordance with the time schedule specified by the Purchaser in the Supply order.
  2. If at any time during performance of the Contract, the Supplier should encounter conditions impeding timely delivery of the Goods and performance of the Service, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier’s notice the Purchaser shall evaluate the situation and may at its discretion extend the supplier’s time for performance.
  3. Except as provided under GCC Clause 22, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 20, unless an extension of time is agreed upon pursuant to GCC Clause 19.2 without the application of liquidated damages.

**20. Liquidated Damages**

* 1. Subject to GCC Clause 22, if the Supplier fails to deliver any or all the Goods or to perform the services within the period(s) specified in the supply order, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed goods or unperformed services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of percentage specified in SCC. Once the maximum is reached, the Purchaser may consider termination of the Contract pursuant to GCC Clause 21.

**21. Termination for Default**

Contract may be terminated by the Rate Contract Authority if:

* 1. If the supplier fails to execute the supply within the stipulated time, the Purchaser is at liberty to make alternative purchase, in the event of making ALTERNATIVE PURCHASE, the supplier will be imposed penalty apart from the forfeiture of Performance Guarantee. The excess expenditure over and above contracted prices incurred by the Purchaser in making such purchases from any other sources or in the open market or from any other supplier who has quoted higher rates and other losses sustained in the process, shall be recovered from the Performance Security or from any other money due and become due to the Supplier and in the event of such amount being insufficient, the balance will be recovered personally from the Supplier. The penalty would be as under:
     + 1. First extension 31st day **for indigenous equipment and 121st day for imported equipment** thereof from the date of issue of supply order – 3% of supplied ordered item.
       2. Second & maximum after 45 days **for indigenous equipment and 136 days for imported equipment** from the date of issue of supply order – 5% of supplied ordered item.
       3. The order will be deemed cancelled after expiry of 60 days **for indigenous equipment and 150 days for imported equipment** from the issue date.
  2. The order may be cancelled after expiry of delivery period as mentioned in the supply order and the supplier shall also suffer forfeiture of the Performance Security and shall invite other penal action like blacklisting / disqualification from participating in present and future tenders.
  3. Rate Contracting Authority will be at liberty to terminate by assigning justifiable reason thereof the contract either wholly or in part on one month notice. The Supplier will not be entitled for any compensation whatsoever in respect of such termination.
  4. If the Supplier, in the judgment of the Rate Contracting Authority has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

For the purpose of this Clause.

“**Corrupt practice**” means offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

“**Fraudulent practice**” means a mis-presentation / hiding of facts in order to influence a procurement process or the execution of a contract to the detriment of the other bidders, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial noncompetitive levels and to deprive the other bidders of the benefits of free and open competition.

* 1. For infringement of the stipulations of the contract or for other justifiable reasons, the contract may be terminated by the Rate Contracting Authority, and the supplier shall be liable for all losses sustained by the Rate Contracting Authority, in consequence of the termination which may be recovered personally from the supplier or from his properties, as per rules.
  2. Non performance of any of the contract provisions will disqualify a firm to participate in the tender for the next five years.
  3. In all the above conditions, the decision of the Rate Contracting Authority shall be final and binding.

**22. Force Majeure**

* 1. Not with standing the provision of GCC Clause 19, 20, 21, the Supplier shall not be liable for forfeiture of its performance security, liquidated damages, penalty or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
  2. For purpose of this Clause, “Force Majeure” means an event beyond the control of the Supplier and not involving the Supplier’s fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Rate Contracting Authority either in its sovereign or contractual capacity, wars or revolution, fires, floods, epidemics, quarantine restrictions and freight embargoes.
  3. If a Force Majeure situation arises, the Supplier shall promptly notify the Rate Contracting Authority in writing with adequate proof of such conditions and the cause thereof. Unless otherwise directed by the Rate Contracting Authority in writing the Supplier continue to perform its obligations under the Contract as far as it is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by Force Majeure event.

**23. Termination for insolvency**

* 1. The Rate Contracting Authority may at any time terminate the contract by giving written notice to the Supplier, if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Rate Contracting Authority.

**24. Termination for Convenience**

* 1. The Rate Contracting Authority, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Rate Contracting Authority’s convenience, the extent to which performance of the Supplier under the contract is terminated, and the date upon which such termination become effective.
  2. The Goods that are complete and ready for shipment within 30 days after the Supplier’s receipt of notice of termination shall be accepted by the Rate Contracting Authority at the Contract terms and prices. For the remaining Goods, the Rate Contracting Authority may elect:

to have any portion completed and delivered at the Contract terms and prices; and / or

to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and for materials and parts previously procured by the Supplier.

**25. Resolution of Disputes**

* 1. The Rate Contracting Authority and the Supplier for the rate contracts & purchaser and supplier for supply order, supply, delivery and payment and other issues shall make every effort to resolve amicably by direct informal negotiations any disagreement or dispute arising between them under or in connection with the Contract.
  2. If, after thirty (30) days from the commencement of such informal negotiations, the Rate Contracting Authority and the Supplier & purchaser and the supplier have been unable to resolve, amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms specified in the SCC. These mechanisms may include, but are not limited to, conciliation mediated by a third party, adjudication in an agreed national or international forum, and/or international arbitration.

i. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the goods under the contract.

ii. Arbitration proceedings shall be conducted in accordance with the rules of procedure specified in SCC.

* 1. Notwithstanding any reference to arbitration herein the parties shall continue to perform their respective obligations under the contract unless they otherwise agree.

**26. Limitation of Liability**

* 1. Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6.

i. the supplier shall not be liable to the Rate Contracting Authority, whether in contract, tort, or otherwise, for any indirect or consequential clause or damage, loss of use, loss of production or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the suppliers to pay liquidated damages to the Rate Contracting Authority, and

* + 1. the aggregate liability of the supplier to the Rate Contracting Authority, whether under the contract, in tort or otherwise, shall not exceed the total ordered price, provided that this limitations shall not apply to the cost of replacing sub-standard/defective goods.

**27. Governing Language**

* 1. The contract shall be written in English language. Subject to GCC Clause 28, English language version of the Contract shall govern its interpretation. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.

**28. Applicable Law**

* 1. The Contract shall be interpreted in accordance with the laws of the Union of India.

**29. Notices**

* 1. Any notices given by one party to the other, pursuant to this Contract, shall be sent to other party in writing, confirmed in writing to the other Party’s address specified in SCC.
  2. A notice shall be effective when delivered or on the notice’s effective date, whichever is later.

**30. Taxes and Duties**

* 1. In case of any enhancement in Excise Duty due to notification of the Government after the date of submission of tenders and during the tender period, the quantum of additional excise duty so levied will be paid extra, if the rates of excise duty prevailing at the time of tender, has been shown extra and actually paid by the supplier. For claiming the additional cost on account of the increase in Excise Duty, the supplier should produce a letter from the concerned Excise authorities for having paid additional Excise Duty on the goods supplied to Purchaser and also must claim the same in the invoice separately.
  2. Suppliers shall be entirely responsible for all taxes, duties license fees, octroi, road permits, etc. incurred until delivery of the contracted Goods to the Purchaser. However, Sales tax/VAT (not surcharge in lieu of Sales Tax/VAT) in respect of the transaction between the Purchaser and the Supplier shall be payable extra, if so stipulated in the supply order.

**31. Fall Clause**

* 1. Prices charged for supplies under Rate Contract by the supplier should in no event exceed the lowest prices at which he offers to sell or sells the stores of identical description to any other State Government / DGS & D/ Public Undertaking during the period of the contract.
  2. If at any time during the period of contract, the price of tendered items is reduced or brought down by any law or Act of the Central of State government, the supplier shall be bound to inform Rate Contracting Authority immediately about such reduction in the contracted prices, in case the supplier fails to notify or fails to agree for such reduction of rates, the Rate Contracting Authority will revise the rates on lower side. If there is a price increase for any product after quoting the rates, the bidder will have to supply the item as per quoted rates. This office will not accept any higher rates after wards.
  3. If at any time during the period of contract, the supplier quotes the sale price of such Equipments or sells such Equipments to any other State Govt. / DGS&D and Public Undertakings at a price lower than the price chargeable under the rate contract he shall forthwith notify such reduction to Rate Contracting Authority and the prices payable under the rate contract for the Equipments supplied from the date of coming into force of such price stands correspondingly reduced as per above stipulation however reduction shall not apply to :-

(a) Export by the supplier

(b) For all contracts entered into prior to the date of the tender or for any backlog of pending orders.

* 1. Within six months of the commencement of the rate contract and at the rate contract period a certificate in the following forms will have to be submitted by the supplier :-

I/We certify that the stores of description identical to the store supplied to the Govt. of M.P. under the contract herein have not been sold by me/us to any other State Govt. / Central Govt. / DGS & D / Public Undertaking during the period of the rate contract of Madhya Pradesh under the contract / except for the quantity of under sub-clause (a) & (b) of the clause 31.3.

**32. Jurisdiction**

* 1. In respect of all disputes or claims related with Rate Contracts out of or under this contract, Indore Court alone shall have jurisdiction to entertain the same.
  2. In respect of all disputes or claims related with Supply, Payments and any other out of or under this contract, the concerned Court of Purchaser’s place shall have jurisdiction to entertain the same.

CHAIRMAN, PURCHASE COMMITTEE &

DEAN, M.G.M MEDICAL COLLEGE, A.B. ROAD INDORE (M.P.)

**SECTION IV :**

**SPECIAL CONDITIONS OF CONTRACT (SCC)**

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**SPECIAL CONDITIONS OF CONTRACT (SCC)**

**TABLE OF CLAUSES**

|  |  |  |
| --- | --- | --- |
| **Clause No.** | **Topic** | **Page No.** |
| 1 | Definitions (GCC Clause 1) | 52 |
| 2 | Performance security (GCC Clause 7) | 52 |
| 3 | Inspection and tests (GCC Clause 8) | 53 |
| 4 | Annual / Comprehensive Maintenance Contract) & Training | 54 |
| 5 | Packing (GCC Clause 9) | 54 |
| 6 | Delivery and documents (GCC Clause 10) | 55 |
| 7 | Insurance (GCC Clause 11) | 55 |
| 8 | Payments (GCC Clause 14) | 56 |
| 9 | Prices (GCC Clause 15) | 56 |
| 10 | Liquidated damages & deduction in payment (GCC Clause 20) | 56 |
| 11 | Resolution of disputes (GCC Clause 25) | 57 |
| 12 | Notices (GCC Clause 29) | 58 |
| 13 | Supplier Integrity | 59 |
| 14 | Supplier’s obligations | 59 |
| 15 | Patent right (GCC Clause 6) | 59 |
| 16 | Progress of Supply | 59 |
| 17 | Section V: Bid Form | 61 |

**Special Conditions of Contract**

The following special conditions of contract shall supplements the general conditions of contract whenever there is a conflict, the provisions herein shall prevail, over those in the general conditions of contract the corresponding clause numbers of the general conditions is indicated in parentheses.

**1. Definitions (GCC Clause 1)**

GCC 1.1 (g) (a) The Purchaser is concerned Deans / Principal / Superintendents of various Govt. / Autonomous Medical Colleges, Dental College and Associated Hospitals of Madhya Pradesh which is also Good’s Receiving Authority.

GCC 1.1 (i) (b) The Supplier is the individual or firm supplying the Goods and Services under this Contract.

GCC 1.1 (h) (c) The Purchaser Country is India.

GCC 1.1 (l) (d) The project site is as per supply order.

**2. Performance security (GCC Clause 7)**

2.1 The supplier shall be required to pay 10% performance security of the order value or maximum Rs. 15 lac which ever is less. The performance security should be paid upfront in respect of each supply order or before the due date fixed by the Purchaser, valid up to the end of guarantee / warranty period for performance obligations including warranty obligations.

* 1. Substitute clause 7.4 of the GCC by the following.

The performance security will be discharged by the Purchaser and returned to the supplier not later than 60 days following the date of completion of the supplier’s satisfactory performance obligations including the warranty obligations under the contract.

* 1. Add as clause 7.5 to the GCC the following:-

In the event of any contract amendment, the supplier shall, within 07 days of receipt of such amendment furnish the amendment to the performance security, rendering the same valid for the duration of the contract as amended for further period of 60 days thereafter.

**3. Inspection and tests (GCC Clause 8)**

If purchaser wishes:

1. The inspections shall be carried out by the appointed Technical Committee or Inspection Agency at the premises of the suppliers / godown or stores of the supplier / at point of delivery / installation. Inspection and testing charges for the above purpose shall be borne by the supplier.
2. Inspection note will be issued by the inspection committee verifying the specification, performance, details of accessories supplied with the machine, test certificate issued by the respective authority etc. as decided by the purchasing committee.
3. The machine will be dispatched only after the inspection procedure has been followed and inspection note issued to accept the consignment.
4. The consignee may also draw the sample, at random, from the consignment within 45 days of their receipts, and get them re-tested to satisfy whether the lots conform to the laid down specification. In the event of the sample failing to conform to specification, the consignee shall reject the batch of supply and inform the supplier for arranging replacement of the rejected batches at his own cost.
5. When the inspection conducted on the premises of the supplier, all reasonable facilities and assistance including access to drawing and production data shall be furnished to the inspectors at no charge to the Purchaser.
6. In the event of the sample of EQUIPMENTS failing quality test and found to be not as per specification the Purchaser is at liberty to make alternative purchase of the items, of EQUIPMENTS for which the supply orders have been placed, from any other sources or in the open market or from any other suppliers who might have quoted higher rate at Bid and the cost of the supplier and in such cases the Purchaser has every right to recover the excess cost from supplier’s performance security.
7. If any items of equipments supplied by the supplier have been partially or wholly used or consumed after supply and are subsequently found to be in bad order, unsound, inferior in quality or description or otherwise faulty or unfit for consumption and if payment had already been made to him then the contract price or prices of such articles or things will be recovered from the supplier,. The supplier will not be entitled to any payment, whatsoever, for items of equipments found to be NOT OF STANDARD QUALITY whether consumed or not and the purchaser is entitled to deduct the cost of such equipments from any amount payable to the supplier. On the basis of nature of failure, the product / supplier will be moved for black listing.
8. For equipments labelled as NOT OF STANDARD QUALITY, the concernedadministration will be informed for initiating necessary action against the supplier and that product shall be banned / black listed and no further supplies will be accepted from him till he is legally discharged. The supplier shall also not be eligible to participate in tenders for supply of such equipments for a period of five subsequent years.

**4. Annual (without spare parts) (AMC) / Comprehensive (include free labour, repair, other services & spare parts) Maintenance Contract (CMC) & Training**

* 1. The Bidder shall also quote charges for Annual (without spare parts) / Comprehensive (include free labour, repair, other services & spare parts) Maintenance Contract for the next five years after the expiry of five years warranty period in Annexure-XII.
  2. The bidder shall provide operational training to Technician staff / operator for minimum of 3 days by the expert or as instructed at the time of agreement.
  3. The bidder should take guarantee of the availability of all spare parts for a minimum period of 10 years from the date of installation.
  4. Genuine equipments and instruments etc. should be supplied. Tenderers should indicate the source of supply i.e. name and address of the manufacturers from whom the items are to be imported.

**5. Packing (GCC Clause 9)**

Add as clause 9.3 of the GCC of the following:-

Packing Instructions: The Supplier will be required to make separate packages for each Consignee. Each package will be marked on three sides with proper paint/indelible ink, the following:

(i) Project (ii) Contract No. (iii) Country of Origin of Goods (iv) Supplier’s Name; and (v) Packing list reference number.

* 1. Packing should be able to prevent damage or deterioration during transit.
  2. In the event of items of equipments supplied found to be not as per specifications in respect of their packing, the Purchaser is at liberty to make alternative purchase of the items of equipments for which the supply orders have been placed from any other sources or in the open market or from any other bidder who might have quoted higher rates at the risk and the cost of the supplier and in such cases the Purchaser has every right to recover the cost and imposes penalty as mentioned in GCC clause 21.1.

**6. Delivery and documents (GCC Clause 10)**

Upon delivery of the goods, the supplier shall submit the following documents to the Purchaser.

1. Three copies of the supplier invoice showing Goods description, quantity, unit price, and total amount.
2. Acknowledgement of receipt of goods from the consignee(s).
3. Installation certificate signed by respective consignee.
4. Manufacturer’s / supplier’s warranty certificate.
5. Inspection certificate issued by the nominated inspection agency, and the Supplier’s factory inspection report; and
6. Certificate of origin.
7. Photocopy of all test report of all equipments etc. should be submitted with every delivery challan.

**7. Insurance (GCC Clause 11)**

For delivery of goods at site, the insurance shall be obtained by the supplier in an amount equal to the value of the goods from final destinations as specified in the supply order of “All Risks” basis including war Risks and strike.

Should any loss or damage occurs, the supplier shall:

1. Initiate and pursue claim till settlement, and
2. Promptly make arrangement for replacement of any damaged item/s irrespective of settlement of claim by the underwriters.

**8. Payments (GCC Clause 14)**

Payment for goods and services shall be made in Indian Rupees as follows:-

* 1. No advance payments towards cost of equipments etc. will be made to the supplier.
  2. All payments shall be made by way of crossed cheques drawn in favour of the supplier.
  3. All bills / invoices should be raised in triplicate in the name of Concerning Purchaser.
  4. Payment will be made after completion of supply of goods / service on turn key basis as per supply order, installation, commissioning and successful test running at the site, due verification and subsequent satisfactory report of the user department. Payments shall be made by the Purchaser after submission of the claim by the Supplier. All sincere efforts will be made for payment of due amount which has been submitted to the purchaser within 30 days unless the situation being out of control of / unforeseen for the purchaser. Proforma invoice should also be submitted.
  5. FALL CLAUSE: If, at any time, during the said period, the supplier reduce the said prices of such Stores/ Equipment or sales such stores to any other person/organization at a price lower than the chargeable, he shall forthwith notify such reduction or sale to the PURCHASER and the price payable for the Stores supplied after the date of coming into force of such reduction or sale shall stand correspondingly reduced.

**9. Prices (GCC Clause 15)**

Substitute clause 15.1 of the GCC with the following:

Prices payable to the supplier as stated in the contract shall not be subject to adjustment during performance of the contract

**10. Liquidated damages & deduction in payment (GCC Clause 20)**

* 1. For delay :

Substitute GCC clause 20.1 by the following:

Subject to GCC clause 20, if the supplier fails to deliver any or all the goods or perform the services within the time period(s) specified in the contract. The Purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price as liquidated damages, as shown below of the delivered price of the delayed goods or unperformed services for each week of delay or part thereof until actual delivery or performance up to maximum deduction of 5% of the delayed goods or services contract price. Once the maximum is reached, the purchaser may consider termination of the contract.

* + - 1. First penalty: 31st day **for indigenous equipment and 121st day for imported equipment** from the date of issue of supply order – 3% of supply ordered item.
      2. Second penalty: After additional 45 days 45 days **for indigenous equipment and 136 days for imported equipment** from the date of issue of supply order – 5% of supply ordered item.
      3. The order will be deemed cancelled after expiry of 60 days **for indigenous equipment and 150 days for imported equipmen** from the issue date
  1. Purchaser has every right to receive supply even after expiry of delivery period as mentioned in the supply order and in such case, liquidated damages will be levied @ 3% of the delivery price of the delayed goods or unperformed services for each week of delay or part thereof until actual delivery or performance.
  2. Supply in damaged condition shall not be accepted. In case of damage in the packing, the supply will be accepted only after levying penalty or replacement of damaged supplyon the total value of supply to that particular / other designated place.
  3. Supply must be in toto i.e. not in fraction.

**11. Resolution of disputes (GCC Clause 25)**

Add as GCC clauses 25.4 and 25.5 the following:

* 1. The dispute resolution mechanism to be applied pursuant to GCC clause 25 shall be as follows:

1. In case of dispute or difference arising between the Rate Contracting Authority / Purchaser and supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The Next Higher Authority shall be the Arbitrator.
   1. The Venue of Arbitration shall be at concerned place of next higher authority of R.C.A. / Purchaser.

**12. Notices (GCC Clause 29)**

For the purpose of all notices, the following shall be the address of the Rate Contracting Authority & Purchaser and supplier:

Rate Contracting Authority: The Chairman, Purchase Committee &

Dean, M.G.M. Medical College,

Indore (M.P.)

Purchaser :

* + - * 1. Dean, M.G.M. Medical College, A.B.Road, Indore
        2. Dean, Gandhi Medical College, Bhopal
        3. Dean, Gajra Raja Medical College, Gwalior
        4. Dean, Shyam Shah Medical College, Rewa
        5. Dean, N.S.C.B. Medical College, Jabalpur
        6. Dean, Bundelkhand Medical College, Sagar
        7. Principal, Dental College, A.B. Road, Indore
        8. Jt. Director cum Superintendent, M.Y. Hospital, MYH Road, Indore
        9. Superintendent, Govt. Cancer Hospital, Near MY Hospital, Indore
        10. Superintendent, Chacha Nehru Bal Chikitsalaya Avum Anusandhan Kendra, Behind MY Hospital, Indore
        11. Superintendent, Mental Hospital, Banganga, Indore
        12. Superintendent, Hamidia Hospital, Bhopal
        13. Superintendent, Sultania Zanana Hospital, Bhopal
        14. Superintendent, Jayarogya Hospital, Gwalior
        15. Superintendent, Mental Hospital, Gwalior
        16. Superintendent, S.G.M. Hospital, Rewa
        17. Superintendent, N.S.C.B. Medical College Hospital, Jabalpur
        18. Superintendent, Govt. Medical College Hospital, Sagar

Supplier : (To be filled at the time of Contract Signature)

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**13. Supplier Integrity**

The supplier is responsible for and obliged to conduct all contracted activities in accordance with the contract using state-of-the-art methods and economic principles and exercise all means available to achieve the performance as specified in the contract.

**14. Supplier’s obligations**

The supplier is obliged to work closely with the R.C.A. & Purchasers staff, act within its own authority and abide by directives issued by the Purchaser and implementation activities.

The supplier will abide by the job safety measures prevalent in India and will free the purchase from all demands or responsibilities arising from accidents or loss of life the cause of which is the supplier’s negligence. The supplier will pay all indemnities arising from such incidents and will not hold the Purchaser responsible or obligated.

The supplier is fully responsible for managing the activities of its personnel or sub contracted personnel and will hold itself responsible for any misdemeanors.

The Supplier will treat all data and information about the Rate Contracting Authority / Purchaser, obtained in the execution of his responsibilities, in strict confidence and will not reveal such information to any other party without the prior written approval of the Rate Contracting Authority / Purchaser.

**15. Patent right (GCC Clause 6)**

In the event of any claim asserted by a third party of infringement of copyright , patent, trademark or industrial design rights arising from the use of goods or any part thereof in the Purchaser’s country, the supplier shall act expeditiously to extinguish such claim. If the supplier fails to comply and the Purchaser is required to pay compensation to a third party resulting from such infringement, the supplier shall be responsible for the compensation including all expenses court cost and lawyers fees. The Purchaser will give notice to the supplier of such claim, if it is made, without delay.

**16. Progress of Supply**

Supplier : (To be filled at the time of Contract Signature)

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Supplier shall regularly at every 7 days interval shall intimate item wise progress of supply in writing, to the Purchaser as under:

* + Quantity offered for inspection and date :
  + Quantity accepted / rejected by inspecting agency and date:
  + Quantity dispatched / delivered to consignee and date :
  + Quantity where incidental services have been satisfactorily completed with date :
  + Quantity where rectification / replacement effected / completed on receipt of any communication from consignee / Purchaser with date :

(In case of state-wise inspection, details required may also be specified).

CHAIRMAN, PURCHASE COMMITTEE &

DEAN, M.G.M MEDICAL COLLEGE, A.B. ROAD INDORE (M.P.)

SECTION V

Ref. Clause No. 17.1(p) of ITB

**BID FORM**

Date : 22.04. 2013

Tender No. CPC/EQP-RD/13-14/06.

To,

Chairman, Purchase Committee &

Dean, M.G.M. Medical College

A.B.Road, Indore (M.P.)

I/We, the undersigned, declare that:

* + 1. I/We have examined the bidding documents including Addenda Nos. ……. (insert numbers), the receipt which is hereby acknowledged.
    2. I/We have gone through all terms and conditions of the tender document before submitting the same. I/We hereby agree to all terms and conditions as stipulated in the tender document and offer to supply and deliver ………………….. (Brief description of equipments) in conformity with the bidding documents in accordance with the schedule of prices attached herewith and made part of this bid.
    3. I/We undertake, if our bid is accepted, to deliver the goods in accordance with delivery period specified in the supply order.
    4. I/We agree to abide by this bid for a period of 180 (numbers) days after the date fixed for bid opening and shall remain binding upon us and may be accepted at any time before the expiration of that date.
    5. If our bid is accepted, we commit to deposit a performance security in accordance with GCC clause 7 & SCC clause 2 for the due performance of the contract.
    6. Until a formal contract is prepared and executed, this bid together with your written acceptance thereof and your notification of rate contract shall constitute a binding contract between us.
    7. I/We undertake if at any time, it is found that any information furnished by us to the Rate Contracting Authority, either in our bid or otherwise, is false, the Rate Contracting Authority servers the right to terminate the contract without assigning any reasons, forfeiting the bid security or performance security and blacklisting us for a period of 5 years.
    8. I/We understand that you are not bound to accept the lowest or any bid you may receive.
    9. I/We hereby submit our tender for the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
    10. I/We now enclosing herewith the E.M.D. No.\_\_\_\_\_\_\_\_\_\_\_ dated \_\_\_\_\_\_\_\_\_.
    11. I/We have noted that overwritten entries shall be deleted unless duly cut & re-written and initialed.
    12. Tenders are duly signed (No thumb impression should be affixed).
    13. I/We undertake to sign the contract / agreement, if required, within 15 (fifteen) days from the date of issue of the letter of acceptance, failing which our/my security money deposited may be forfeited and our/my name may be removed from the list of suppliers.

Dated this ………………….. day of ……………….. 2013.

(Signature) ……………..

(in the capacity of :……………….)

Duly authorized to sign for and on behalf of ………………..

Witness 1

Witness 2

**TABLE OF ANNEXURES**

|  |  |  |
| --- | --- | --- |
| **Sr. No.** | **Topic** | **Page No.** |
| 1 | Annexure – I (Sales Tax Clearance Certificate) | 63 |
| 2 | Annexure-II (Manufacture Authorization Form) | 65 |
| 3 | Annexure – III (Declaration / Undertaking Form) | 66 |
| 4 | Annexure – IV (Proforma for Performance Statement) | 67 |
| 5 | Annexure – V (Annual Turnover Statement) | 68 |
| 6 | Annexure – VI (Specification of require Equipments) | 69 |
| 7 | Annexure – VII (Performance Security Form) | 70 |
| 8 | Annexure – VIII (Contract Agreement) | 71 |
| 9 | Annexure – IX (Details of Manufacturing Unit) | 74 |
| 10 | Annexure – X (The Price Schedule) | 75 |
| 11 | Annexure – XI (Price Schedule for AMC / CMC) | 76 |
| 12 | Annexure – XII (Details of Service Centre in M.P.) | 77 |
| 13 | Check List | 78 |
| 14 | Requirement of Equipments (Departmentwise) | 82 |

ANNEXURE – I

Ref. Clause No. 17.1 (g) of ITB

**FORM OF CERTIFICATE OF SALES TAX / VAT VERIFICATION TO BE PRODUCED BY AN APPLICANT FROM THE CONTRACT OR OTHER PATRONAGE AT THE DISPOSAL OF THE GOVERNMENT OF MADHYA PRADESH**

**(To be filled up by the applicant)**

1. Name of style in which the applicant is addressed or assessable to sales tax / VAT addresses or assessment.
2. a. Name and address of all companies , firms or associations or persons in which the applicant is interested in his individual or fiduciary capacity
3. Places of business of the applicant (all places of business should be mentioned)
4. The Districts, blocks and division in which the applicant is assessed to sales tax / VAT (all places of business should be furnished)
5. a. Total contract amount or value of patronage received in the preceding three years

2009-10

2010-11

2011-12

1. Particular of sales – Tax / VAT for the preceding three years

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Year** | **Total T.O. (Turnover) be assessed (Rs)** | **Total Tax assessed (Rs)** | **Total Tax Paid**  **(Rs)** | **Balance due (Rs)** | **Reasons for Balance (Rs)** |
| 2009-10 |  |  |  |  |  |
| 2010-11 |  |  |  |  |  |
| 2011-12 |  |  |  |  |  |

1. If there has been no assessment in any year, whether any returns were submitted? if yes, the division in which the returns were sent?
2. Whether any penal action or proceeding for the recovery of Sales tax / VAT is pending?
3. The name and address of Branches, if any :

I declare that that the above information is correct and complete to the best of my knowledge and belief.

Signature of Applicant:

Address:

Date:

**(To be filled up by the Assessing Authority)**

In my opinion, the applicant mentioned above has been / has not been / doing everything possible to pay the tax demands promptly and regularly and to facilitate the completion of pending proceeding.

Date Seal : Deputy / Asstt. Commercial Tax – Officer

Deputy Asstt.

Note: A separate certificate should be obtained in respect of each of the place of business of the applicant from the deputy commercial tax officer or Assistant commercial tax officer having jurisdiction over that place.

**ANNEXURE – II**

**Ref. Clause No. 17.1 (q) of ITB**

**MANUFACTURER’S AUTHORIZATION LETTER**

**No………………………………… Dated………………**

To,

Dear Sir,

Tender No.:

We \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ an established and reputable Manufacturers of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ having factories at \_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_ do hereby agree to supply \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ confirming to the required specification and required quantity to M/s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Bidder) as offered by them to supply against the above stated Tender. This is also certified that M/s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is our authorized distributor / importer since \_\_\_\_\_\_\_\_\_\_\_\_ (month & year should filled), and his performance is satisfactory.

We hereby extend our full guarantee and warranty as per Clause 15 of the General Conditions of Contract for the supply against this invitation for Bid by the above firm.

Yours faithfully,

(name)

for and on behalf of M/s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Name of manufacturers)

**Note: This letter should be signed by a person competent and having authority to sign on behalf of manufacturer, and should be duly Notarized.**

**ANNEXURE – III**

**Ref. Clause No. 17.1 (T) of ITB**

**DECLARATION / UNDERTAKING**

I/We/ M/s.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ represented by its Proprietor / Managing Partner / Managing Director having its Registered Office at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and its Factory Premises at \_\_\_\_\_\_\_\_\_\_\_\_ do declare that I/We have carefully read all the conditions of tender in Ref. No.\_\_\_\_\_\_\_\_\_\_\_\_\_ for supply of equipment, floated by the Purchase Committee, and accept all conditions of Tender.

I/We agree that the Purchaser has rights of forfeiting the Bid Security and or Performance Security Deposit and blacklisting me/us for a period of 7 years if any information furnished by us proved to be false at the time of inspection and not complying to the tender conditions.

Signature of the Bidder

Name & Address in capital letters with Designation

**To be duly Notarized.**

**ANNEXURE – IV**

Ref. Clause No. 17.1(e) of ITB

**PROFORMA FOR ITEMWISE LIST OF INSTALLATIONS IN LAST THREE YEARS OF THE MANUFACTURER’S**

Name of the Manufacturer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Sl. Name of installed machines Name of the Purchaser & address Date of Quantity

No. and model with phone number installation

1 2 3 4

1

2

3

4

5

6

7

8

9

10

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12

**Signature and seal of the Bidder**

**Annexure-V**

**Ref. clause No. 13.3(l) of ITB**

**ANNUAL TURNOVER STATEMENT**

The annual Turnover of M/s ……………………………………………………. For the past three years are given below and certified that the statement is true and correct.

Turnover in Crore (Rs.)

|  |  |  |
| --- | --- | --- |
| **Sr No.** | **Year** | **Turnover in Crores (Rs)** |
| 1. | 2009-10 |  |
| 2. | 2010-11 |  |
| 3. | 2011-12 |  |

Date :

Seal:

Signature of Auditor ⁄

Chartered Accountant

(Name in Capital)

**ANNEXURE-VI**

Ref. Clause No. 11.1 of ITB

**SPECIFICATIONS OF EQUIPMENTS**

Tender No.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sr No** | **Item Code** | **Name of Item /**  **Equipment** | **Specification Required by Purchaser** | **Make & Model** | **Specification as quoted by bidder** | **Compliance / Deviations** |
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**ANNEXURE-VII**

Ref. Clause No. 7.3 of GCC

**PERFORMANCE SECURITY FORM**

To: ……………………………………………… (Name of Purchase)

Whereas ………………………………………... (Name of Supplier)

hereinafter called “the supplier” has undertaken , in pursuance of Contract No. ……… dated…… 2009 to supply ………………………….. [ description of goods and related services] hereinafter called “the Contract”.

AND WHEREAS it has been stipulated by you in the said Contract that the Supplier shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with the Suppliers performance obligations in accordance with the Contract.

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

THEREFORE, WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of \_\_\_\_\_\_\_\_\_\_\_\_\_ (Amount of the Guarantee in Words and Figures) and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the Contract and without cavil or argument, any sum or sums within the limit of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (amount of Guarantee) as aforesaid, without needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the ………………….. day of …………….. 2013 .

Signature and Seal of Guarantors

-------------------------------------------------

-------------------------------------------------

Date ………..………2013

Full Address of the Bank:

-------------------------------------------------

-------------------------------------------------

Telephone No. -------------------------------

Fax No. ---------------------------------------

Email Address -------------------------------

**ANNEXURE-VIII**

Ref. Clause No.31 of ITB

**CONTRACT AGREEMENT FORM**

**(Tender No.\_\_\_\_\_\_)**

THIS CONTRACT AGREEMENT made the ………………………day of …….. 2013 between Rate Contracting Authority (Chairman, Purchase Committee and Dean, M.G.M. Medical College, Indore M.P.) (Name of Rate Contracting Authority) of India (country of Rate Contracting Authority) (hereinafter called “the Rate Contracting Authority” ) of one part and M/s ………………………………. (name of supplier) of …………………………………. (city and country of supplier) (hereinafter called “the supplier”) of the other part :

**WHEREAS** the Rate Contracting Authority invited bids for certain goods and ancillary services viz. EQUIPMENTS (Brief description of goods” and services) and has accepted a bid by the supplier for the supply of those goods and services.

**NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:**

1. In this agreement words and expression shall have the same meaning as are respectively assigned to them in the conditions of contract referred to :
2. The following documents shall constitute the contract between the Rate Contracting Authorityand the supplier, and each shall be read and construed as an integral part of the contract :
   1. This contract agreement :
   2. Instructions of contract :
   3. General conditions of contract :
   4. Special conditions of contract :
   5. Technical Specifications :
   6. The supplier’s bid and original price schedules
   7. The Rate Contracting Authority’s notification of rate contract.
3. This contract shall prevail all other contract documents. In the event of any discrepancy or inconsistency with the contract documents, then documents shall prevail in the order listed above.
4. 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 provide the goods and services and to remedy defects therein in conformity in all respects with the provisions of the contract.
5. 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 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 supplied / provided by the supplier are as under:-

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sr No.** | **Item Code** | **Item Description** | **Unit** | **F.O.R. Rate per unit (Rs.)\*** |
|  |  |  |  |  |

\* The above rates are inclusive of excise duty, transportation, insurance, inspection & testing charges and any incidental charges, but exclusive of CST/VAT.

1. The prices shall be valid for one year from the date of agreement, unless revoked and thereafter for a further period as agreed upon mutually.
2. The supplier shall agree to deposit inspection and testing charges and service tax as per tender conditions, in advance by cash / demand draft, against the value of supply order.
3. The supplier shall agree to deposit 10% performance security, along with as mentioned at point no. 7 (above), in advance by FDR / Bank Guarantee, against the value of particular supply order for a period of 18 months.
4. The suppliers are not authorized to supply material directly to any state Govt. / Semi Govt. / any other organization on the rate lower than the rate contract.
5. The supplier shall supply the goods directly to the indentor / purchaser at the address given in the supply order.
6. The supplier shall raise bills directly in the name of indenting officer / purchaser against the supplies made directly by them to the indentor’s satisfaction in compliance with the conditions contained in the supply order.
7. The supplier shall receive payment against its bill directly from the indenting department / purchasing department. In case of Non-payment for the supplies made by supplier, they will demand payment directly from the department / indentor concerned and in no case Purchase Committee shall be responsible for the consequence for delayed payment or non-payment.
8. The supplier shall carefully read all the conditions of tender for supply of equipment, floated by the Purchase Committee, and accept all terms and conditions in the tender document. Signing this contract means that the supplier has read all the terms and conditions and abide by it.

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

That, in token of this agreement, both parties have today affixed their signature at Indore.

Signed, Sealed and delivered by the

Said ……………………………… (For the RATE CONTRACTING AUTHORITY)

In the presence of: …………………………………..

Signed, Sealed and Delivered by the

Said ……………………………… (For the supplier)

In the presence of: …………………………………..

**ANNEXURE-IX**

Ref. Clause No. 13.3 (j) of ITB

**DETAILS OF MANUFACTURING UNIT / AUTHORIZED DISTRIBUTORS**

Name of the Tenderer & Full Address :

(Whether manufacturer / authorized distributor)

PAN number :

Phone Nos. :

Fax No. :

E-mail Address :

Date of Inception :

Equipments Manufacturing / Distribution License No & Date :

Issued by :

Valid upto :

CST / VAT Registration No. :

If bidder is authorized distributor then :

name, address, telephone, fax of

authorized manufacturer.

Name & Designation of Authorized Signatory

Signature of the Authorized Signatory

**The details of manufacturing unit / authorized distributor shall be for the premises where items quoted are actually manufactured / stoked.**

**ANNEXURE-X**

Ref. Clause No. 17.2 of ITB

**PRICE SCHEDULE**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sr No | Item Code | Name of the Equipment / Item | Name of Manufacturer | Make & Model No. | Rate per Unit  (Landed price)  (Inclusive of excise / custom duty, transportation, insurance, service charges, inspection charges and any incidental charges etc.) | Amount of Transportation, Insurance, Service charges, Inspection charges (included in quoted rate per unit) | Rate of Excise / Custom Duty (included in quoted rate per unit) | Rate of CST/ VAT as applicable |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|  |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

Place:

Date:

Signature

Name in Capital Letters

Designation

**Note: This format of price schedule is a sample for the Bidders. Price schedule should be submitted online only in the prescribed format and price schedule should not be submitted in physically or in form of CD, otherwise bid shall be rejected.**

**ANNEXURE-XI**

Ref. Clause No. 17.2 (vii) of ITB

**PRICE SCHEDULE FOR ANNUAL (WITHOUT SPARE PARTS) /COMPREHENSIVE (INCLUDE FREE LABOUR, REPAIR, OTHER SERVICES & SPARE PARTS*)* MAINTENANCE CONTRACT**

**(A.M.C. / C.M.C. ) AFTER EXPIRY OF WARRANTY**

**(RATES SHOULD BE QUOTED IN PERCENTAGE OF THE VALUE OF THE MACHINE)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sr No | SME Code No. | Name of the Equipment | For first year with spare parts & labour | For second year with spare parts & labour | For third year with spare parts & labour | For fourth year with spare parts & labour | For fifth year with spare parts & labour |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
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|  |  |  |  |  |  |  |  |

Place:

Date:

Signature

Name in Capital Letters

Designation

**Note: This format of price schedule is a sample for the Bidders. Price schedule should be submitted online only in the prescribed format and price schedule should not be submitted in physically or in form of CD, otherwise bid shall be rejected.**

**ANNEXURE-XII**

Ref. Clause No. 13.3(g) of ITB

**DETAIL OF SERVICE CENTER IN M.P.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S. No. | City | Name & Place of Service Center | Address, Telephone, Fax & email | No. of Service Engineer with Name / Mobile No. | Remark |
| 1 | Indore |  |  |  |  |
| 2 | Bhopal |  |  |  |  |
| 3 | Gwalior |  |  |  |  |
| 4 | Jablapur |  |  |  |  |
| 5 | Rewa |  |  |  |  |
| 6 | Sagar |  |  |  |  |

**Name & designation of the authorized Signatory**

**Signature of the authorized signatory**

**CHECK LIST FOR TERMS AND CONDITIONS FOR EQUIPMENTS**

Check list for Terms and Conditions (To be filled by the bidder and submitted along with the bid) Page No. must be mentioned against each serial.

**All non notarized documents except EMD must be self attested together with official seal .**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sequence for online upload of document** | Documents | Check  Yes / No | If, Yes Page No. |
| Upload 1 | 1. Annexure – I (Sales Tax Clearance Certificate) |  |  |
| Upload 2 | 2. Annexure-II (Manufacture Authorization Form) |  |  |
| Upload 3 | 3. Annexure – III (Declaration / Undertaking Form) |  |  |
| Upload 4 | 4. Annexure – IV (Proforma for Performance Statement) |  |  |
| Upload 5 | 5. Annexure – V (Annual Turnover Statement) |  |  |
| Upload 6 | 6. Annexure – VI (Specification of require Equipments) with two additional self certified copies duly signed and stamped on each page |  |  |
| Upload 7 | 9. Annexure – IX (Details of Manufacturing Unit) |  |  |
| To be filled online only | 10. Annexure – X (The Price Schedule) |  |  |
| To be filled online only | 11. Annexure – XI (Price Schedule for AMC/CMC) |  |  |
| Upload 8 | 12. Annexure – XII (Details of Service Centre in M.P.) |  |  |
| Upload 9 | 1. Registration Certificate of the company with details of the Name, Address, Telephone Number, Fax Number, e-mail address of the firm and of the Managing Director / Partners / Proprietor. |  |  |
| Upload 10 | 1. Authorization letter from manufacturer authorizing a person to transact a business with R.C.A. |  |  |
| Upload 11 | 1. The instruments such as power of attorney, resolution of board etc., authorizing an officer/person of the bidder should be submitted with the tender and such Authorized officer/person of the bidder should sign the tender documents. |  |  |
| Upload 11 | 1. Market Standing Certificate issued by the Licensing Authority as a Manufacturer / distributor for each equipment quoted for the last 3 years. In case of direct importer, evidence for importing the said items for the last three years. |  |  |
| Upload 13 | 1. The bidder should also submit national & international quality certificates like ISI/CE/C ISO-9002, IP/BP etc” mark / IEC standard or equivalent certificate of quoted product, if available. |  |  |
| To be submitted physically only | 1. The bidders have to submit name of the items, its code no. for which they are quoting in the price bid. Such names and items code of the items should be submitted along with the technical bid, failing which the tenderer’s price bid will not be opened. The Bidder has to submit Name of Item and its code number. |  |  |
| Upload 14 | 1. Concern / Company has (a) not been debarred / blacklisted in the past either by Rate Contracting Authority or by any State Government or Central Government Organization. (b). firm has no vigilance enquiry / CBI enquiry pending against him / supplier. (c) The firm has not supplied the same item at the lower rate than quoted in the tender to any Govt. / Semi Govt. or any other organization. Affidavit to this effect shall be submitted by the concern / company and should be duly notarized on 100/- Non judicial stamp paper. |  |  |
| Upload 14 | 1. Original Bid Form duly signed by authorized signatory as per Section V, duly sealed and signed by the bidder on each page for acceptance of Terms and Conditions. |  |  |
| Upload 15 | 1. Bidders should have the registration under Commercial Tax Authority Registration should be attached. |  |  |
| Upload 16 | 1. An affidavit of the manufacturer on a Non judicial stamp paper on Rs. 100/- binding itself for supply of genuine spare parts to the purchaser for a period of minimum 5 years beyond warranty period. |  |  |
| Upload 17 | 1. An affidavit of the manufacturer on a Non judicial stamp paper on Rs. 100/- that the quoted equipment is the latest model of the company matching to the specification of this tender and that it is not refurbished equipment. |  |  |
| Upload 18 | 1. Certificate for being in business or more than 3 years |  |  |
| Upload 19 | 1. Certificate for sole ownership / partnership. |  |  |
| Upload 20 | 1. Statement of good financial standing from bankers. |  |  |
| To be submitted physically only | 1. The printed original catalogues of primary manufacturer and any other technical documents like data sheet or operational manual of equipment with highlighting the features in portal along with the other documents. In catalogue, the quoted product no. and name should be highlighted, against which that product is quoted. These documents are also to be submitted in physical form before due date along with Bid security. |  |  |
| Upload 21 | 1. In case of imported equipment IEC certificate of importer / bidder shall be submitted. |  |  |
| Upload 22 | 1. A separate price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warrantee period. |  |  |
| To be submitted physically only | 1. Recurring expenditure on equipments. |  |  |
| Upload 23 | 1. Any other document required as per tender document. |  |  |

**I N D E X**

|  |  |  |
| --- | --- | --- |
| s.no | ***Name of department*** | ***Page no.*** |
| ***1*** | ***Anaesthesia*** | ***82*** |
| ***2*** | ***Anatomy*** | ***93*** |
| ***3*** | ***Bio chemistry*** | ***97*** |
| ***4*** | ***Blood bank*** | ***106*** |
| ***5*** | ***Burn and plastic surgery*** | ***125*** |
| ***6*** | ***Casuality upgradation*** | ***132*** |
| ***7*** | ***Dentistry*** | ***135*** |
| ***8*** | ***Forensic medicine*** | ***158*** |
| ***9*** | ***Gastroterology*** | ***162*** |
| ***10*** | ***General medicine*** | ***167*** |
| ***11*** | ***Microbiology*** | ***187*** |
| ***12*** | ***Neurosurgery*** | ***198*** |
| ***13*** | ***Obstetrics and gynaecology*** | ***228*** |
| ***14*** | ***Ophthalmology*** | ***240*** |
| ***15*** | ***Orthopaedics*** | ***260*** |
| ***16*** | ***Paediatric surgery*** | ***297*** |
| ***17*** | ***Paediatrics medicine*** | ***315*** |
| ***18*** | ***Pathology*** | ***325*** |
| ***19*** | ***Pharmacology*** | ***345*** |
| ***20*** | ***Physiology*** | ***354*** |
| ***21*** | ***Physiotherapy*** | ***367*** |
| ***22*** | ***PSM*** | ***371*** |
| ***23*** | ***Psychiatry*** | ***372*** |
| ***24*** | ***Pulmonary medicine*** | ***378*** |
| ***25*** | ***SVD*** | ***383*** |
| ***26*** | ***Surgery*** | ***384*** |
| ***27*** | ***ENT*** | ***406*** |

ANAESTHESIA DEPARTMENT

|  | |
| --- | --- |
| Sr.no | Name of equipment | Specification | Total |
| ANS1 | Advanced anaesthesia machine | Anaesthesia apparatus with circle absorber and fluotec vaporizers (with provision for selecta tec back bar) :  -must have antistatic castor wheel.  -should have provision for spare cylinder with bourdon pressure gauge.  -must have color coded yoke &port.  -must have pin index system.  -must have touch coded valves.  -must have link 25 mechanisms  -must have pop of valve.  -must have oxygen failure alarm.  -must have vaporizer for halothane.  -calibrated vaporizer.  -agent specific vaporizer.  -pressure compensated.  -flow compensated.  -must have provision for anaesthesia ventilator.  -must have circle absorber.  -must have antistatic corrugated tubing.  -table top for arranging drugs and syringes.  -should have provision for two inlets for two oxygen and two inlets for two nitrous oxide cylinders with pin index system. A type.  -high pressure relief value in the back bar system.  -diaphram in the pressure regulator teflon or steel  -breathing circuit with inflation pressure manometer.  -5 metres of high pressure tubing colour coded for oxygen and nitrous oxide with schradder valve attachment and pin index at the machine end.  -provision for two 60 psi. Oxygen source built in the machine.  -the soda lime canister should be double chambered single piece with metal bar on the top with provision for apl valve. Gas inlet and outlet change over knob to isolate the canister.  -table top for keeping the monitor and  Anaesthesia ventilator.  - should have a capacity of l.5kg or more  - should have visible inspiratory and expiratory valves .  -should have adjustable pressure relief valve  -should have single switch change over from spontaneous to bag ventilation .  - should have local technical support, technical engineer for 24 hours. | 14 |
| ANS2 | Anaesthesia ventilator | Ventilators : should be capable of supporting paediatrics and adult patients with wide variety of clinical conditions.  Frictionless piston design eliminates the need for a compressor or hospital wall air.  Should provides assist/ control, simv and spontenous modes of ventilation with two breath types of volume controlled ventilation and pressure support ventilation. Should provides. Pcv pressure control ventilation in aic or simv modes.  Tidal volume can be set from 40ml to 2000ml  Respiratory rate ranges from 3 to 70bpm  Peak flow ranges from 3 to 1501pm for  Assist/control and simv modes, upto  3001pm for spontenous brea1ms.  Pressure support ranges from 0 to 70cm h2o.  Provides flow trigger from 11pm to 201pm.  Provides setting of inspiratory pressure, insp. Time, i.e, exhalation sensitivity and rise time factor.  Provides apnea backup ventilation.  Internal 02 blending and fio2 monitoring available.  Front panel distinctively classified for settings, patient data and alarm status with dual bargraph (volume & pressure)  Provides internal battery backup for minimum 2.5 hours at full charge. External battery option available for both.  Elaborate menu option for viewing active and reset alarm, self test, users settings, oxygen menu for calibration, software revision operational hours etc.  Service menu provides descriptive service error codes, complete self test enables the service engineers & bio-medical technician for easy trouble shooting incase of ventilator inoperative condition.  Provides respiratory mechanics measurement of static and dynamic compliance &resistance, auto peep etc.,  Provides descriptive patient data monitoring.  Provides safety value open option to enable patient to breath through atmosphere air in case of ventilator inoperative condition as safety measure.  Provided with heated exhalation system to avoid cross contamination.  With communication port enabling the provision for nebulizers and other external devices viz central monitoring, wave form interface, remote alarm, etc.,  Manual inspiration and 100% oxygen flush option available.  Provides non-invasive ventilation due to fact that it has got wide leak compensation, rise time capability & exhalation sensitivity features.  Pcv-simv provides two level of pressure breaths comparable to bilevel/ bipap ventilation.  Accessories to be supplied alongwith  The ventilator:  Adult breathing circuit  Paediatric breathing circuit  Re-usable insp bacteria filter  Re-usable exp bacteria filter  Collector vial assembly  Flex arm, test lung  F &p mr 810 humidifier base  F & p mr 370 humidifer chamber  High pressure oxygen hose assembly  Operator manual, power cord,Trolley, nebuliser | 4 |
| ANS3 | C-pap unit | * Mode of ventilation should be cpap with temperature controller * Digital display for pressure and time parameters * Adjustable pressure range upto 20 cm h2o * Ramps time should be unlimited * Hour meter counter to record the operation time * Complete with pollen filters and carrying case * Power of 220v, 50hz * Any other added feature | 2 |
| ANS 4 | Bi-pap unit | * From a company of international or national repute * Automatic bipap unit for pre & post operative treatment to assist breathing mechanism & gas exchange for paediatric & adult patients and also sleep apnea. * Mode of ventilation will be bi-level ventilation. * Digital display for pressure and time parameters. * Adjustable pressure range upto 30 cm h2o. * Pressure bar graph for patient breaths and pressure. * Display of patient parameters. * Alarms on adjustable values. * Backup battery for one hour * Temperature control ventilation system. * Complete with filters and carrying case. * Power of 220 v, 50 hz | 2 |
| ANS 5 | Fiber optic laryngoscope (adult) | General specifications:  Light weight  Easy handling and processing  Compact study and ergonomic design  Remote switch on the scope  Integrated with standard accessories for cleaning and maintenance  Technical features of the scope 1  High resolution ccd chip  Field of view: 120-140 degrees front view  Depth of view: 3-100 mm or better  Outer diameter of the distal end: 3.4-3.9mm  Outer diameter of insertion tube: 3.4-3.9mm  Inner diameter: 1.2-2mm  Upward angulations: 180 degrees  Downward angulations: 130 degrees  Working length: 60-65cm  Total length: 80-90cm  2- field of view: 1200  Depth of field: 3-50mm  Tip deflection up/down: 210/1300  Rigid distal diameter: 4.5-5.0 mm  Diameter of working channel: 1.5-2.0 mm  Insertion tube working length: 600 mm  Total length: 860 mm  Video system center /video processor with key board should be  Independent /separate module from light source  Pre-procedural patient data storage up to 40 patients  Emergency back-up bulb facility in light source  Image freezing capicity0n the scope  Voltage on pal-220-240v, 50-60 ac-suitable for indian conditions  Video outputs: rgb, bnc, y/c  Xenon light source  Independent /separate module from video processor  Light weight  Xenon light source 150-300  Voltage specifications suitable to indian condition -220-240 volts ac 50-60 hz, 0.5amps.  Forced air-cooling with emergency lamp (halogen)  Lcd monitor: should be  Color monitor  Minimum 14inches size screen  High resolution  Rgb, y/c and bnc  Light weight  Accessories  Leakage taster  Cleaning brush for the channel, channel opening cleaning brush (2 nos. Each)  Good quality trolley  Computer with printer &software for storing /documentation  biopsy forceps with window: 2no.s  Cleaning brush (short):1 no.  Cleaning brush (long):1 no.  Suction cylinder cleaning brush: 1no.  Rubber intel seal: 10no.s  Suction channel cleaning cap: 1no.  Bite block: 1no.  Eto gas venting cap: 1no.  Carrying case: 1no.  Owner’s manual: 1no.  Key: 1no. | 2 |
| ANS 6 | Video laryngoscope set | Adult set and pediatric set (ce, iso and fda approved)  Set containing:   1. Laryngoscope blades- 4 blades  * Laryngoscope blades (normal adult & small adult blade) with specially designed view tube allowing vision of 48 degree from straight line of sight, * Integral oxygen port to extend the intubation time, * Easy link up to endoscopic systems provided * Blade containing replaceable fibre-optic element, * Replaceable fiber clip for easy cleaning. * Stainless steel, fibre-optic blades that complies with green system (iso 7376(iii) compatible) handles * Blade that fits on to international standard iso compatible handle, * All contact points between blade and handle must be of stainless steel. * Production batch number must appear on blade  1. Optishape stylets- 4 stylets  * Re-usable stainless steel stylets (to be used with all sizes of et tubes) having preformed shape.  1. Rechargable handle  * Rechargeable handles- 2 nos * Led light source with light output in excess of 2,800 lux * Must hear click when blade is engaged onto handle to protect against faulty placing of blade * Handle components of electrical system must be manufactured from stainless steel to prevent corrosion * Handle conform to international standard iso 7376(iii)  1. Picture capture device- lcd display  * Dedicated lcd display for magnifying the optical image produced by optical view laryngoscope * Designed to fit optical view laryngoscope with an easy magnetic fit on. * Gives ability to confirm positioning of et tube as well as to record entry of tube into epiglottis for research and archiving. * Camera head must have the focusing ring to obtain clear & sharp image. | 1 |
| ANS 7 | Na+|k+ analyzer | From a company of international or national repute  Electrolyte analyzer ise for na, k, ca, li.  For whole blood, plasma, serum, urine.  Sample volume: - blood / plasma / serum 35-200 micro litres (chemistry dependent) urine (diluted) 50-250 micro litres (chemistry dependent) low maintenance electrodes - sealed or membraning  Digital display  Stat mode of operation.  Auto sampler.  Self diagnostics program; system monitoring and maintenance modes storage qc data  Integral printer  Calibrators,controls,reagents,consumables for start-up  Complete with electrodes.  220v, 50 hz. | 1 |
| ANS 8 | Bispectoral index monitor | Product description: bis monitoring system for display of processed data and real-time eeg waveforms  Monitor weight: 3 lbs (1.5 kg)  Monitor dimensions: 6.5 in high x 6 in wide x 5 in deep(16.5 cm x 15.2 cm x 12.7 cm)  Display size: 3.6 in (9.1 cm)  Digital output: usb ports a,b, rs232 serial port  Power requirements: 100-240 vac, 50-60 hz, 0.7 ampere max  Electrical safety: conforms to: ul 60601-1, iec 60601-2-26,  Can/csa-c22.2 #601.1  Battery backup: 45 minutes or more at full operation  Recharge time: 6 hours or less  Alarms: auditory and visual, user-adjustable limits  Bisx™ specifications  Weight: 10 oz. (.284 kg) including integral cable  Dimensions: 3.75 in wide x 2.5 in high  (9.5 cm x 6.3)  Cable length: 9 ft (2.7 m) integral bisx cable 4.5 ft (1.4 m) from bisx to sensor connector | 2 |
| ANS 9 | Isoflurane vaporizer | -should be agent specific -calibration must be correct  -pressure compensated  -temperature compensated  -flow compensated  -selecta tee compatible -should have a local technical support engineers for 24 hours backup. | 4 |
| ANS 10 | Sevoflurane vaporizer | Should be agent specific -calibration must be correct  -pressure compensated  -temperature compensated  -flow compensated  -selecta tec compatible  -should have a local technical support  - engineers for 24 hours backup  -Scope of supply  1. Selecta tec vaporiser (sevoflurane)- 1 no  2. Key filler - 1 no  3. Manual - 1 no | 4 |
| ANS11 | Desflurane vaporizer | Should be agent specific -calibration must be correct  -pressure compensated  -temperature compensated  -flow compensated  -selecta tec compatible  -should have a local technical support  - engineers for 24 hours backup  Scope of supply  1. Selecta tec vaporiser (sevoflurane)- 1 no  2. Key filler - 1 no  3. Manual - 1 no | 2 |
| ANS 12 | Paediatric resuscitation dummy( cpr mannequin ) | This mannequin should be light weight and rugged  Should have foam filled body  Should have no internal parts to break  Should have anatomical landmarks such as nipples,xiphoid process and substernal notch  Should have easy to replace nose / mouth pieces  Should have disposable airways with unidirectional valves  Should have carrying bag | 2 |
| ANT13 | Block aid monitor with nerve locator and maper | From reputed international or national reputed co  Battery operated portable  For block aid monitor all types of modes of stimulation (single twitch, tof, dbs, tetany) etc with recommended frequency ( 1 to 100 hz) display of current output   * 1. To 5 ma minimum for nerve location and higher for maper and surface electrodes   Should deliver rectangular monophasic impulse of less than 0.2m secs audio & visual single display | 2 |
| ANS14 | Transcutaneous electrical nerve stimulator | 1. No. Of outputs should be 4 (four) 2. No. Of channels 4 (four) 3. Stimulation types tens & ems. 4. Output wave form symmetrical biphasic spare wave. 5. Tens made should be burst, conventional, modulation type. 6. Power should be operable with both battery and alk maliry current 7. It should be approved - iso certified 8. Treatment time - 1 to 60 minutes 9. Output voltage 40 volts peak to peak on 500 ohms load. 10. Output current 80mamaximum 11. Displaysystem lcd 12. Burst mode pulse width 50 μs to 250 μs in steps of 10 μsPulse rate i hz & 120hz in step of 1 hz upto 20 hzs and hz from 20 - l2hz 13. Modulation mode pulse width - 50 μs to 250 μs in steps of 10 μs. Pulse rate - same 14. Convectional : -- continuous output,   Pulse width same as above  Pulse rate .:- same  It should be f.d.a. approved & iso certified. | 3 |
| ANS15 | Neuromuscular monitor | 1. Should be non invasive. 2. Should permit evaluation of state of relaxation. 3. Should be compact, light and simple. 4. Should have battery operated stimulator. 5. Should have mounting brackets for securing the device. 6. Should have modes of stimulation with single twitch, tetanus and train of four. | 6 |
| ANS16 | Oxygen concentrator with double outlet | Size: : compact and portable  Weight : upto 25 kgs  Sound level : < 50 dba  Power consumption : 400 watts avg  Safety alarms : power failure  process failure  high and low pressure  low oxygen purity  Oxygen purity : 0-2 lpm-94%, 2-4 lpm-93%, 5 lpm- 90%  Outlet pressure : 7 psi  Oxygen output : variable – 0 to 5 lpm (1/2 litre increment)  Filters : cabinet, compressor intake, and bacteria | 6 |
| ANS 17 | Anaesthesia workstation | Should be suitable for adult pediatric and neonatal patients.   1. Hypoxic guard-which ensures minimum 25% concentration of oxygen in o2/n2o/mixture. Oxygen & n2o flow should automatically get adjusted independently. 2. One switch operation, electromechanical on/off switch. 3. Advanced breathing system. 4. One step bag-vent switch. 5. Minimal number of parts and tube connections to reduce the potential for leaks and misconnects. 6. All materials in contact with exhaled patient gases should be fully autoclavable and latex-free. 7. Standard dual o2 and n2o air flow tubes-real low flow delivery possible. 8. Minimum o2 flow of 50 ml. 9. O2 & n2o pin indexed yoke air pin indexed. 10. Airway pressure gauge near the flow meter. 11. O2 flush. 12. To be supplied with autoclavable reusable silicon breathing circuit. 13. Integrated advanced ventilator with side arm adjustable ventilator display. 14. Ventilator should essentially have all electronic numerical adjustment with single digit step adjustment. 15. Should have volume mode. 16. Ventilator pneumatics should have peak gas flow 70l/min + fresh gas flow & flow range of 2 to 70l/min. 17. Pressure bar-graph for visual reference on breath-to-breath basis. 18. Electronic peep. (4-40 cm) 19. Alarms in ventilator. 20. 50 to 1500 ml tv, 4 to 80 bpm, 2:1 to 1:2 i: e ratio, inspiratory pause 5% to 60 % of inspiratory time. 21. Battery backup of 30 minutes typical & 90 minutes when fully charged. 22. Fresh gas flow compensation. 23. Larger work surface. 24. Compact reusable & autoclavable carbon dioxide absorbent canister. 25. Two-vaporizer manifold with selectatec mounting. Isoflurane and sevoflurane. 26. Safety flow off valve 30 k pa (4.5 psi)+ 10%. 27. Emergency o2 flush 35-70 liter/min. 28. Auxiliary o2 supply- minimum of two. 29. Trolley made of stainless steel resistant to corrosions. 30. Required pressure o2-60 psi, n2o-60 psi, air-60 psi. 31. Automatic changeover from pipeline to cylinder supply. | 16 |
| ANS18 | Peripheral nerve stimulator | 1. Display – digital clear display, large screen. 2. audio indicator with several for easy detection of intensity delivered via needle. 3. Screen should be like that reading can be done in poorly lit surrounding. 4. Dimensions should be min.   Length > 200mm.  Width 55 mm to 90 mm  Height 25 mm to 40 mm   1. Pulse frequency 1- 2 -4 hz. 2. Pulse width 50------300lis 3. Pulse ---0.02 m a increment up to 0.5 ma 4. Maximum intensity 50 µs 6 ma or 300 nc   150 µs 5 ma 700 nc  300 µs 4ma 1200 nc   1. Should be both batteries as well ac operated. 2. Iso/ce certified. 3. Low battery alarm or break in circuit alarm. 4. Should have different color of cable (positive & negative) to avoid connection error. 5. It should be f.d.a. approved & iso certified. | 16 |
| ANS19 | Lma with video facility | * Curved airway tube with integrated fiber optic technology having digital display with controls for focusing and image adjustment. * Battery life > 40 min. And should be rechargeable * Should be light weight (< 900gm) with wireless connection. * Magnetic latch connector for good connectivity with lma tube. * Endotracheal tube with atraumatic tip to enter the trachea through lma. * Uninterrupted image transmission of light source at distal with end with no obstruction to endotracheal tube. | 6 |
| ANS20 | Laryngoscope with video guided intubation | * Should have fully integrated high definition optics. * Should have guiding channel. * All- in -one portable design. * Anatomically shaped * Built - in antifog system. * Optimal wireless video system. | 3 |
| ANS21 | Resuscitation anne advanced skill trainer | Torso including:  S airway management head  S iv arm   * Foam legs lower body * Remote control including batteries * Remote control cable (for use when rf communication is not allowed) * Power cord for ac wall adapter * 1 bottle simulated blood * 1 can lubricant * Manual defibrillation plates (paddle adapters) * Hard case (120 liter) * Resusci anne eye set * Directions for use * Track suit including jacket and pants * Software cd and usb interface cable   Accessories  Resusci anne modular extrication limbs  Resusci anne modular first aid / trauma limbs  Bleeding control leg | 1 |
| ANS22 | Reusable patient warming system | * Constant, evenly distributed warming directed towards patient, without air circulation. * Flexible system suitable for all type of surgeries. * Maximum possible coverage of the patient. * Gently warming directed toward patient ,no upward radiation of heat * Precise & selectable temp. Control between patient and blanket (from 30deg to 42 deg c) * No threat of nosocomial infection. * Non latex, anti-bacterial coated, blood and fluid resistant, cover material. * Reusable, washable and replaceable covers. * Small and light weight, control unit, easily attachable to iv pole /side rail of ot table. * Available in pediatric and adult sizes. | 20 |
| ANS23 | Multipara monitor | 1. It should be six channel multicolor 2. Up gradable module 3. 24 hours trends of all the parameters with digital recording. 4. Operable on ac mains with battery back up of at least 4 hours. 5. Parameters - should provide- 5 lead ecg, respiration, spo2, nibp, etco2 monitoring, two temperature monitoring, (all the parameters should have alarm facility with high and low unit display). 6. Colour monitor with minimum 10" screen. 7. Accessories -   Ecg cable, spo2 probe of adult & pediatric size, nibp adult and  Pediatric and neonatal cuffs, two esophageal temp, probes. | 20 |
| ANS24 | Biphasic defibrillator with monitor | 1. Should have 8" display 2. All parameters to be stored for 24 hours. 3. Rechargeable battery (charging time 10 to 12 hours, operating time on battery 2-3 hours) 4. Should have visual and acoustic alarms. 5. Defibrillator with energy levels paddles : 2, 4, 8, 15, 30, 50, 70, 90, 120, 150, 200, 300 j with both non- synchronized and synchronized defibrillation mode 6. Ecg 5 leads cable 7. Accessories -  * 5 lead ecg cable 1 no, * Reusable ecg electrodes with stickers - 1 pack * Chest bulb electrodes - 1 set * Earth cable 1 no. * Jelly bottle 1 no. * Power cord 1 no. | 15 |
| ANS25 | Anaesthisia pendent in O.T. | * + 1. Supports upto 160 kg     2. Integrated accessory rai     3. Electric brake handle     4. Adjustable equipment shelves     5. Equipment rails     6. Pheum ate brake indicator     7. Adjustable shelbves     8. Self closing lockable drawer     9. I grated equipment rails     10. Seamless injection control     11. Custom outlet placement     12. Centrally aligned shelves     13. Option of rotation facility     14. Patient life pendant option     15. Arms allow for positioning adjustment of pendant head with in 2 meter range     16. Provision for i/v attachement     17. Turning range of 330     18. Stable strong adjustable mounting plate design     19. Expansion side pods.     20. Easing in corporation of cable system. | 1 |
| ANS26 | Tru view scope | Should be light weight and portable  Should be made u p of stainless steel  Should have angled optics such as to reduce cormack & lehane grade. | 3 |
| ANS27 | Ozone generator | Size : 6 wide \* 6 \* 1 ½ inches  Weight : less than 2 pounds silent, low cost operation no filters or plates to clean or replace minimal maintenance  Vacuum or blow dust from fan vent as needed  Ozone purity : 100% no nitrogen byproducts  Lamp arc life : 20,000 hrs or more | 5 |
| ANS28 | 100 ma medical mobile x-ray machine for icu | 100 ma machine with multiple flexible arms for easy maneuverability.  Combined X Ray generator. Single focus. Bridge rectification. Should have all advanced features required for use in ICU.  Should be upgradable to a higher version. Remote control device (control range>5m) | 3 |
| ANS29 | Icu ventilator | Should have the following modes volume control (flow adapted volume control or equivalent) pressure control,ps/cpap,simv pressure control+ps,niv,prvc or equivalent,bivent and lung mechanics.facility for suction support. | 10 |

ANATOMY DEPARTMENT

|  |  |  |  |
| --- | --- | --- | --- |
| S.No. | Name of equipment | Specifications | Total |
| ANT1 | Mortuary freezer (cooler) for four bodies | 1. Stainless steel body, rust proof powder coated paint, prefabricated panels for exterior, stainless steel inner chamber with insulation  2. Front opening hinged insulated door lined with magnetic gasket hand lock arrangement with keys in duplicate for individual dead bodies chamber  3. Lower and upper carriage assembly riding on wheels and track that allow easy movement  4. Micro processeor based temperature cum indicator mounted on front panel , provided on front top along with pilot lamp.  5. Main switch supply with complete cord and plugs suitable to work on electric supply of 220 volts , single phase less than 5 degree centigrade, 50 HZ  Automatic voltage stabilizer 3 KVA | 05 |
| ANT 2 | Anthropometry set | A.A slim guide skin fold caliper made of rugged ABS plastic contraction with high quality springs, technical error of measurement for a single replication as low as 5%  B. Tomkit Tommy 3 small bone caliper, slim guide skin fold caliper  Anthropometric measuring tape 0 indicated  Anthropometric fundamental power point presentation condura carry bag.  C. Spreading caliper - with roundel ends, measuring range o-600mm – one  D.Six piece goniometer set finger goniometer 14cm  Pocket goniometer 18 cm , 180 degree- one set  Goniometer 19cm 180 degree  Goniometer 36 cm 360 degree  X-ray goniometer 20 cm 180 degree   1. Anthropometer length 0-210mm   2. Sliding caliper (poech type)   1. Spreading caliper with rounded pointed ends 2. Kit for anthropometry senior consisting of :BTI Anthropometer/spreading caliper both, sliding caliper, measuring tape ,pencil 3. Goniometer attachable (Mollison type) 4. Cubic Craniophore BTI with built in bone holder 5. Bone support 6. Mandibutometer 7. Skin fold caliper   9-finger & palm printing pad complete set | 03 |
| ANT 3 | Cadaver Injector machine | - for injecting formaldehyde solution in to cadaver at much higher speed than gravity process. Unit consist of one air compressor fitted with ½ H.P. standard make motor, a stainless steel tank having capacity of 10 liters. Having solution level indicator and top liquid fitting nozzle wit cap. Tank fitted with safety valve, pressure gauge and rubber tubing, suitable to work on 220 single phase 50HZ AC supply  Unit should be covered and mounted on portable trolley having fur castor wheels for easy movement.. Tank to be fitted with safety valve, pressure gauge and rubber tubing having provision for injection. Supply with complete electric cord, plug, suitable to work on 220 volts, 50 HZ, AC Supply. | 05 |
| ANT 4 | Dissecting stereoscope | - 7.5 x – 70 x zoom magnification stereoscopic binocular USB digital microscope + Camera + Carrying case | 05 |
| ANT 5 | Digital Video imaging system | Color corrected with din plan optics resolution more than 400000 pixels, high resolution chip, RCA, S-Video, USG 2.0 output, high resolution built in digital camera to produce brilliant image. Video and digital signals can be obtained at the microscope base and displayed on TV set and PC Monitor at the same time by high resolution CCP chip. Built in mock/Digit converter.  40x to 1000x or higher standard magnification range, with additional eye piece.  A versatile software for image capturing, processing and editing . | 03 |
| ANT6 | Automatic knife sharpener | Having 0-60 minutes timer can be accommodate knives of length upto 170 mm and thickness 12mm. Suitable to work on 220v, single phase 50hz, ac supply. | 02 |
| ANT7 | Tissue processing unit (single unit) | Stainless steel wax box thermostatically controlled. | 01 |
| ANT8 | Bone decalcifier digital | Basket movement by an electric motor with up and down movement at slow speed to provide through solution action . Heating jacket vessel to heat the solution by digital temperature controller for accurate control of solution temperature. Suitable to work on 220v, single phase 50hz, ac supply. | 03 |
| ANT9 | Trinocular microscope | Trinocular head with 5x, 10x and 15x eye pieces,  4x, 10x,45x, 100x oil objectives. Achromatic lens. | 03 |
| ANT10 | 1.3 mega pixel microscope camera | Hardware resolution : 1.3 mp, resolution of 1280 x 1024 pixels  Pixel size 5.2 um x 5.2 um or 8.2 um x 8.2 um  Computer interface usb port comparable with all kinds – monocular, binocular and trinocular microscope and any make of compound up right, inverted and stereo microscopes. Controlled by software. Window xp, vista and windows 7 based. Micrometry – all kind of measurements possible with software. Complete processing of image is possible live svideo preview on computer screen in real time. Computer still image, manually as well as automatically with time – lapse. Should be ofcientific grade. | 01 |
| ANT11 | Distillation plant | Distillation plant 5 liter capacity | 02 |
| ANT12 | Incubator for Histology Lab | Range from 36°C - 70°C , 230V- AC, 18” x18”x 18” | 01 |
| ANT13 | Microscope Digital camera | Camera type – color CMOS camera MV- M90  Image sensor-1/2.3 inch color CMOS, 9.0 megapixels pixel size, 1.7umx1.75um S/N Ratio 39db sensitivity 1.0V/Lux-sec 550nm A/D switch 12 bits | 01 |
| ANT14` | Digital usb microscopes | High speed usb 2.0 interface | 02 |
| ANT15 | Interactive white board | Size 853 ¾ “ W x 49 ½ “ H x 5 1/8 “ D (217.8cm x 125.7cm x 13cm), Active screen area(maximum interactive projected image), 821/8 “ W x 46 1/8 “ H (208.6cm x 117.2cm), 941/4” diagonal (239.3cm) 16:9 aspect ratio | 02 |
| ANT16 | Rotary microtome | Slice thickness – 1-25 Micro meters  Lowest slice adjustment graduation 1 micro meter  Max slice section 35 x 25mm  Horizontal specimen stroke 35 mm  Vertical specimen stroke 46 mm  Dimensions 300 x 280 x 280 mm weight - 22.5kg | 04 |
| ANT17 | Ultrasonography machine  Desktop model | A. Latest technology, 15inch LCD-TFT display  B.Should support B/W,Colour,PW,power Doppler modes  C.Should have three active ports, high frame rates >700 FPS.  D. Dynamic range >170 dbe.Should have tissue hromonic tissue imaging capability  E.Both real time & frozen zoom upto 16 times  F.Integrated touch screen,panaromic view, extended FOV  G. IMT package ,stick imaging, multifrequency probes with minimum 5 frequency selections  H.Cine loop memory >15000 frames, 60 sec M/D scroll  I. Scanning depth minimum 30 cm., 1000 pt data memory, integrated HD, direct compatibility with inkjet -/lazer printer with CD-RW.  J. Facility for up grading to real time 4D imaging trans-vaginal volume probes, angular M mode/anatomical M mode, multi frequency convex, linear endo cavitery probes  K. Anvance soft wares like auto NT/ sono NT , viginal 4D probes  L. Should be dicom ready for connecting to remote server/lazer camera | 01 |
| ANT18 | 300 ma X-ray digital | I. Image recording system(cassettes and imaging plates) should support all size. Ii. Image reading (CR Reader/digitizer) ,should process 80 imaging plates/hr, resolution of 6pixl/mm, 10 pixl/mm, 20 pixl/mm for mammography  Iii- pt identification/preview terminal—PC based terminal, modular in approach, display acquired image with demographics, should be ready for interface with existing hospital information system. Iv. Processing server /CR work station –PC based modular, must display acquired images with all details, provide full post processing, provide fulfledged DICOM printing feature  V. Monitors 19 inch minimum LCD panel  Vi. Dry imager (for film printing) –must be a dry imager, DICOM 3.0 print service class, process up to 100 films /hr, deliver first film within 90 sec from request, spatial resolution of 500 PPI/DPI , contrast resolution 12 bits/pixl or more, at least two online films with a standard film sorter  Vii. Interconnectivity between various CR modules, ether net /TCP IP based  Viii. Scalability should have scope of adding module in numbers.  Ix. Software---- annoatation, black border, smart print , easily up gradable.  TECHNICAL SPECIFICATIONS:- 300 MA -125 kvp x-RAY. Full wave solid state silicon rectified X-ray generator,  Ii. Small focus 50 ma, 100 ma large focus 200 and 300 ma  Iii. Timer solid state electronics timer with range .01 to 5 seconds in 24 steps  Iv. Control push to on and off switches with volt meter , voltage compensater , tube overload indicator, display of active KVP, fma and mas  V. HV transformer- heavy duty comprising HV silicon rectifiers , filament transformers , bushings all immerged in oil.  Vi. Accessories- hand switch with long cord , aluminum filter, light beam diaphragm  Vii. Power supply 400 to 440 volt ac, 50 hzts 3 phase,  Viii. Tube unit one rotating anode tube unit with dual focus x-ray tube insert  Ix. HV cable one pair 6 meter HV cable sleeving straight  X. Stand –floor to ceiling stand with counter balanced tube head (180 degree rotatable, 360 degree rotatable, mounted on floor ceiling rails  Xi. Multi-position table –multi position , hand tilt , 5 position table , 15 degree tendelburg to vertical motorized bucky consisting 8x1 , 85 lines /inch grid size , 17.25 inchx18 7/8 inch SS cassette tray, compression band and foot rest. | 01 |
| ANT19 | Pentahead Microscope | 1. Eye piece-ultra field, compensating WF IOX paired eye piece—five pairs 2. Focusing- low and forward position coaxial, fine focusing supported on ball bearing with tension control ring and pre focus stopper. 3. Plain objective – infinity corrected super plain objective Pl-4x , 10x, 40x, 100x (anti fungus) 4. LED pointer- movable green LED pointer (Brightness Adjustable). 5. Observation Head: one high transmission trinocular head 45 degree/30 degree inclined & 360 degree rotatable. 6. Nosepiece: inward resolving quadruple with ball bearing system 7. Illumination: Koehler’s with 12V/50W supre bright halogen lamp. 8. Stage: large mechanical stage with co-axial X-Y motion, S-Y motion 75mm x 55 mm. 9. Magnification:40x-1000x or higher standard. 10. Condenser: swing out for perfect illumination. | 01 |
| ANT20 | Projection Microscope | 1. Low voltage halogen lamp. 2. Built in collector 3. Condenser N.A. 1.25 with iris diaphragm 4. Built in mechanical stage hab ving co- axial drive control. 5. Coarse and fine adjustment graduated to .002 mm 6. Quadruple revolving nosepiece. 7. Distortions free eye piece. 8. Illuminator: 12 volts, 100 watts halogen bulb with centered filament . 9. Range of magnification: acromatic objective& flat piece with magnification 80x to 1200x . 10. Magnification correction: magnification correction knob above nose piece on right side of it is calibrated & constant reference index facility. 11. Optically true screen: screen of optical glass fine grained to obtain high standard images | 03 |
| ANT21 | Automatic tissue processor | Automatic Tissue processor (1 litre capacity) complete unit, with 2 wax bath & glass jars | 04 |
| ANT22 | Rotary Microtome (Rapid) | 1. Slice thickness 1 to 25 mue micron 2. Lowest slice adjusting graduation 1/mue micron 3. Maximum slice section 35x25mm 4. Horizontal specimen stroke 35mm 5. Vertical specimen stroke 46mm 6. Dimensions 300x280mm approx. 7. Net weight 22.5 kg approx. 8. Complete with razor & manual | 02 |
| ANT23 | Semi automatic  Rotary microtome | Programmable semi-automatic rotary microtome section thickness setting range 0.5 mm -90mm setting values -05mm – 1mm -90mm in 1 mm increments trimming section 0.5 mm – 99mm thickness setting range0.5 mm-1mm increments. Horizontal specimen feed- approx .30mm vertical specimen feed approx x60mm. Maximum specimen size 50mm (l) x 60mm (h) x 40mm (w) specimen orientation horizontal 8° vertical 8°, z 360operation voltage- 100 volts / 120 volts /230 volts /240 volts, ,frequency 50 hz . Dimensions width 390 mm, depth 510 mm , height 305 mm, wt. Approx 26 kg. | 01 |
| ANT24 | Fully motorized programmable automatic rotary microtome | Section thickness setting range 0.5mm- 90mm. Setting values 0.5mm-1mm in 0.5 mm increments 0.5mm-99mm in 1um increments. Trimming section 0.5mm- 99mm thickness setting range 0.5mm – 1mm in 1 mm increments. Horizontal specimen feed- approx 0.30 mm, vertical specimen feed approx 60 mm. Maximum specimen size 50mm(l)x 60mm(h) x 40 mm (w), specimen orientation horizontal 8°°, z 360operation voltage- 100 volts / 120 volts /230 volts /240 volts, ,frequency 50 hz . Dimensions width 390 mm, depth 510 mm , height 305 mm, wt. Approx 37 kg. | 01 |
| ANT25 | Automatic tissue processor | From initial stage to dehydration stage to its final embedding in wax with 12 processing stage. The last two stages are thermostatically controlled wax baths. Pin up & pin down timers, 24 hrs. Daily timer.  Single head load, 36 tissue can be processed , double load head 72 tissue can be processed. All the beakers remain covered throuought the process. Unit automatically get loaded upto prevent double processing. Tissue should remain embedded in the wx bath, until removed. Wax bath/ beaker capacity ½ liter suitable to work on 220 volt single phase 50 hz a/c supply . | 01 |
| ANT26 | Automatic slide  Staining machine | 23 station, ith two tiers upper having 11 station plus a blank station. Lower tier having 12 station. Shaking mechanism  Continuously shake the slides throught statining. Work on 220v, single phase 50hz a.c. | 03 |
| ANT27 | Paraffin wax Dispenser Digital | |  | | --- | | Capacity 2-5 liters Digital Thermostatically temperature control tap with temperature control so that wax do not stuck  To the tap. Temperature60 | | 01 |
| ANT28 | Meat cutting machine | Size of cutting blade 785x585 mm approx.,Total table travel 1245 mm ,Extension table 455x760mm sizeof wheel 455mm approx.;height 1770mm approx;motor capacity 1 HP of standard make; Table made of SS steel.;Suitable work on 220 Volts,single phase,50HZ.AC supply | 02 |

BIOCHEMISTRY DEPARTMENT

|  |  |  |  |
| --- | --- | --- | --- |
| NO. | Name of INSTRUMENT | SPECIFICATIONS | TOTAL |
| BIO1 | Deep freezer | 1. Capacity 170 litres &required temperature lowest -20 o c 2. Outer body made of powder coated crca steel 3. Inner chamber non-corrosive, non-magnetic stainless steel 304 aisi grade. 4. Puf insulation between inner and outer chamber. 5. High tech solid state digital temperature indicator cum controller. 6. Unit to be supplied with voltage stabilizer. 7. Dimensions outer: mm 1150(w) x 500(d) x 910(h) inner :600(w)x400(d)x700(h) | 2 |
| BIO2 | Ph meter | Ph range -1.000 to 14.000 ph, resolution/accuracy 0.01/0.001 ph (selectable), mv range ± 1850 mv, ion range 0.001 to 19999 ppm, no of ion calibration points – up to 5 points (1 to 5), temp range -5.0 to 105.00 c, multi buffer potion with built in electrode arm, memory 100 data sets, electrode- ecfc7252101b, single junction ph epoxy body electrode.  Power requirement- smps adapter for 240 vac, 300ma, 9vdc | 1 |
| BIO3 | Mini 2D PAGE Electrophoresis System with  POWER PACK | 8×7 cm gel basic unit with electrode, tube gel adaptor,  Glass tubes, rubber grommets, single gel casting unit, Teflon comb of different size, spacer of different size, metal clips, power cord. Power pack with output variable 0-250 VDC, max current 3Amp,  Digital display and timer control, current with automatic crossover facility | 2 |
| BIO4 | Flame photometer | Latest four element (Na, K, Li, Ca)  Single channel Flame Photometer. Ergonomic design with front loading,  unobstructed sample work area,  with removable tray for easy cleaning. With ease of use resulting from auto ignition and flame optimisation.  Peak picker for presenting unambiguous readings. With selected filter indicator. Safety features including fail safe flame detection and shut off, with low air pressure indicator. High sensitivity with fine manual control of air, and stable flame design. And ease of maintenance and storage. Separate pneumatic and electronic pods. Small footprint (20 x 30cm). Easy to remove and clean filter stick. | 1 |
| BIO5 | Refrigerated centrifuge | * Fixed – angle rotor-20,800 X g * Swing- bucket rotor-4,500 X g * Plate rotor-2,250 X g   Max speed-14,000 rpm  Maximum capacity-4 x 100 ml, 6 x 85 ml  Rotor options-7  Accel. / Braking ramps-10/10  Programs-35 user programs  Timer -30 s to 99 min  Temperature control range - N/A  Noise level Rotor A-4-44 (4 x100 ml )- <67 db (A)  Noise level Rotor F-34-6-38 (6x85 ml)- < 51 db (A)  Power supply-230 V/50-60 Hz  Power requirement- Max. 900 W  Dimensions (wxdxh)- 47 x 55 x 34 cm | 2 |
| BIO6 | Agarose gel electrophoresis Apparatus | Cell size (W x L x H ) 12 x 26 x 6.5 cm  Gel tray size (OD) (W x L) 7 x 7 cm  Ready Agaross gels accommodated yes, mini format  Sample throughput 8 – 30  Base buffer volume ~ 270 ml  Buffer recirculation No  Bromophenol Blue migration 4.5 cm /hr (at 75 V) | 1 |
| BIO7 | Homogenizer | * Fast disruption of samples in minutes. Effective, eproducible disruption and homogenization.Compatibility with a wide range of sample types,No cross-contamination of samples.   Virtis Virsonic Sonicator Cell Disruptor 600 This is a Nice preowned Virtis Virsonic Sonicator Cell Disruptor in Excellent | * 3 |
| BIO8 | Balance ultra semi micro | 0.001mg to 40 gm | 1 |
| BIO9 | Balance micro | 0.05g to 01µg | 3 |
| BIO10 | Incubator electric with thermostats | Digital Temp & Humidity control.  Full automatic work. | 3 |
| BIO11 | Constant temp. Water bath | Temperature Range ℃: Ambient~100 Temperature Precision ℃: ±0.1  Capacity（L）： 6.5 to 8 Stainless Steel Work Chamber  Display: LCD  Water Bath, Single Column Double Wells. | 4 |
| BIO12 | Chromatography apparatus | Easy to use at highest flexibility for straight forward separations. Usage of cartridges and glass columns. The perfect solution for reversed phase chromatography. Automated changes between normal phase and reversed  phase chromatography. Transparent columns and cartridges for high process safety. High sample quantities and flow rates for speedy separations. | 1 |
| BIO13 | Fume cup board | **Laboratory** stainless steel **fume** **cupboard**  Easy to clean and installation  Surface Epoxy resin. | **2** |
| BIO14 | Autoclave electric | Sterilizers are made of high quality cast aluminium alloy that resists aging and corrosion, ensuring years of trouble-free operation. | 2 |
| BIO15 | Hot air oven | * Memmert type * Bearing isi mark:is3119 * Double walled construction * Inner chamber made of highly polished stainless steel aisi 304 grade * Outer chamber made of mild steel sheet duly pre-treated in seven tanks process for surface treatment&are finished with durable power coated paint. * Shelves are made of polished ss sheet. Insulated door fitted with heavy hinges with a special design spring-loaded door closing device. * Door gasket made of synthetic rubber compound * Heating element:heating elements made of high grade imported nichrome wire, properly insulated and are generally placed at the bottom and bith side ribs for uniform temperature all over the space. * Temperature:temperature is controlled by imported capillary type thermostat temperature control knob of each oven is graduated in centrigrade degrees after actually observing the temperature is steady state.   Supplied with l-shaped prismatic glass  Thermometer fitted on top of the oven for  Reading the chamber temperature. Wide temperature  50˚c to 250˚c=1˚c ovens for various applications.   * Ventilation:air ventilation ports provided on both sides at top to ventilate, gases and fumes if any.   Control panel:- the equipment is provided with a panel having a thermostat control knob. On/off switch, two pilot indication lights and provision for fixing the timer power requirement: supplied | 5 |
| BIO16 | Centrifuge machine electric 24 tubes | * Brushless motor maintenance free * Speed range 500-5500 rpm with accuracy of 100 rpm * Preset of desired rpm. * Soft start to prevent spillage. * Digital count down timer. * Safety lid interlock to prevent cover opening during centrifugation . * Imbalance detector with indicator & brake. * Stable speed irrespective of change in supply voltage. * Dynamic brake for quick deceleration. * Angle heads with suitable reduction adapters. * With digital rpm indicator   Technical Data   |  |  |  | | --- | --- | --- | | Max.speed | RPM | 6000 | | Max.RCF | ‘g’ | 5070 | | Max Capacity | Ml | 24x15ml | | 7 |
| BIO17 | Automated multiparametric immunoassay system | 1. The system should be fully automated walkway immunoassay analyzer based on advanced technology i.e. Elfa etc. 2. The system should have independent sample processing sections for uninterrupted sample processing. 3. The system should be based on disposable single dose concept with ready to use reagent strips & solid phase receptacle (spr) to carry out tests. 4. The system should be free from any tubing for mixing of reagents. 5. Each kits should come with individual calibration card, to avoid repeated calibration 6. The system preferabley a bench top analyzer with built in printer 7. The kits should have minimum pack size of 60&30 test kit with all the reagents including calibrator & control provided there should be no additional reagents for running the test. 8. The test kits should have hiv-4th gen& toxo & cmv avidity & hepatitis markers & cd a & b. Pct, pro bnp etc 9. Calibration stability at least for 2-4 weeks   There should be minimum mtbf of the system | 1 |
| BIO18 | Fully automated biochemistry analyzer | 1. System must have the throughput of 200 test/hr without ise and 400 test/hr with ise 2. System must have the static photometry with 8 static filters of wavelengths 340-700nm 3. System must have the reusable reaction cuvettes. 4. The system shall be open type to use reagent of different manufacturers and shall be able to use defferent reagents on the same sample. 5. System must have the facility of automatic washing and cleaning of the reaction cuvettes 6. System must have the facility of cooling of reagent compartment approx 12˚c below ambient. 7. System must have minimum reagent volume of 180ul, sample vol. 2 - 50µl/test. 8. System must have vertical obstruction detection probe. 9. System must have 39 positions for emergency samples. 10. System must have 39 positions for samples, blank, controls, stat samples and standard. 11. System must have 50 positions for reagent. 12. System must equipped with an efficient quality control program comprising of levy-jenning, twin plot and westgard rules. 13. System must have the facility of auto rerun, autodiltion of samples as per demand. 14. System must have bidirectional connectivity and barcode reader for samples and reagents.   System must have the facility to run upto 10 standards in multipoint calibrations. | 1 |
| BIO19 | Horizontal Gel Doc system | Agarose gel electrophoresis Apparatus  Cell size (W x L x H ) 12 x 26 x 6.5 cm  Gel tray size (OD) (W x L) 7 x 7 cm  Ready Agaross gels accommodated -yes, mini format  Sample throughput 8 – 30  Base buffer volume ~ 270 ml  Buffer recirculation No  Bromophenol Blue migration 4.5 cm /hr (at 75 V) | 1 |
| BIO20 | Colorimeter | 8 filter 360 nm to 800nm.  Range- 0-100%Transmitance  Max Sample- 1 sample/see. | 4 |
| BIO21 | MICROPROCESSOR UV- VIC SPECTROPHOTOMETER | |  |  | | --- | --- | | SPECTRAL |  | | WAVELENGHTH RANGE | 190 TO 1000 nm | | SPECTRAL BANDWIDTH | 2 nm | | ACCURACY | + 0.5 nm | | READABILITY | + 0.3 nm | | READ-OUT (WAVELENGTH) | 4 digit 7 segment LED | | RESOLUTION |  | | PHOTOMETRIC |  | | PHOTOMETRIC RANGE | % T : 0 TO 100% Abs : 0 to 1.999 Conc. : 0 to 1.999 K Factor : 0 to 1.999 | | ACCURACY | + 0.005 Abs at 1.0 Abs  + 0.010 Abs at 1.5 Abs | | STRAY LIGHT | Less than 0.1% at 320 nm | | READABILITY | + 1 count | | DATA READOUT | 16 X 2 Line LCD back lit display | | KEY BOARD | 8 Keys, soft touch membrane type | | DATA STORAGE | Upto 100 Samples (0-99) | | PRINTER INTERFACE | Printer Interface for any centronics Dot Matrix Printer | | SERIAL INTERFACE | RS 232C interface | | LIGHT SOURCE | (a) Tungsten – Halogen Lamp (b) Deuterium Lamp (D2) | | DETECTOR | Wide range silicon Photodiode | | OPTICS | Complete mirror optics with resolution 1200 grooves / mm grating, Czerny turner mount | | SAMPLE HOLDER | 4 Position adjustable sample holder | | POWER | 230 V + 10% 50 Hz AC | | DIMENSIONS | 550 X 405 X 130 mm (lxbxh) Approx. | | WEIGHT | 25 Kg. (Approx). | | ACCESSORIES | \*Quartz cuvetts set of 2 \*Dust Cover \*Plastic cuvetts set of 4, Operation Manual |   A. C. 2 TONS | 1 |
| BIO22 | Electrophorosis apparatus | . The system should be fully automated based on capillary technology and capable of separation and analysis of proteins derived from serum, urine &haemoglobin with high resolutions  . Continuous loading, multi assay and STAT functions for high throughput analysis  . Should be able to perform simultaneously up to 8 on board methods. Able to Process serum & urine samples simultaneously  . The instrument should have user definable positions for up to 6 buffers, reagents And user defined antisera combinations  . The throughput of the system should be 70 samples/hour for serum protein Analysis  . The capillary chamber must be peltier controlled with eight fused silica capillaries With size of 50  . Ability for primary tube sampling and automated buffer switching  . Should be able to perform Isoelectrofocusing for haemoglobin and  Immunodisplacement of serum and urine samples  . Possibility of automated sample recall and reflex testing of samples  Loading of up to 112 samples for analysis  . Ability to test for free Kappa/free lambda/lgd&lge chains  . Managed by windows based software with features for – advanced editing,  Database flagging, QC and validation with Levy-Jenings chart  . Bi-directional communication facility with import and export of patient data and Results.  Cell size-(WXLXH)(7-14X20-34X4-10)cm  Tray size—5x5,7x7,10x10,12x12.  Buffer volume- 200-500 ml  A.C. 2 TONS | 1 |
| BIO23 | Specification for ELISA Microwell plate Reader | 1. Should be CE Approved Fully Automated continuous access , walk away Micro plate System 2. Sample capacity at least 180/ Batch 3. Individual racks for sample loading (at least 12) should be provided. 4. Multi tasking system with simultaneous functioning of different processing steps. 5. System should have at least 4 micro plate at a time & 3 micro plates in archiving . 6. Up to 12 parameters per batch 7. System should have Clot detector 8. Original kit vial loading facility( direct loading of reagent vials irrespective of the manufacturer) 9. Singe probe system. 10. Should have Carbonized disposable tips for reagent dispensing& sample dispensing 11. System should have at least 280 positions for primary tubes 12. Should have automatic sample sensing & bar-coding 13. Sample dilutions should be up to 10000 14. 31 positions for reagents & 22 positions for calibrators required. 15. Signature/simultaneous multi reagent pipetting to ensure fast processing. 16. 8 Channel washer manifold. 17. Should have Independent micro plate transporter. 18. System should be 96 well Plate Reader with both bichromatic and monochromatic reading options. 19. At least 8 independent incubators with temp options from RT to 470C. 20. Should have a Bi-directional interface. 21. Start up time should be less than 2 minutes. 22. Option for performing individual modular functions e.g. Washing, reading, incubation and sample addition. 23. Windows based operating system 24. 24 Hrs service support with toll free Number. 25. The company quoted should be direct importer of the system. | 2 |
| BIO24 | Specification for ELISA Washer. | . The System must have 8 channel manifold and 12 channel manifold supplied with The instrument.  . It should have a Tough Screen and no keypad.  . It should have 4 bottles connected to it online, one Rinse, 2 Wash and One Waste Bottle.  . The Waste bottle must have sensors  . The system should have 64 wash protocols.  . The system should have 10 presents for different micoplates.  . It should have two options for dispensing Low, and High.  . The system must offer choice to use any of the 2 wash buffers while running.  . The system must perform Top wash, bottom wash and in case of Flat well,  Crosswise washing. It should have soak facility for 255 s.  . The Micro plate must be docked in a removable Plate Carrier, whose  Decontamination can be performed.  . The system must have Aerosol Cover to prevent particulate matter during wash Cycle.  . Standard accessories must contain pin for cleaning manifolds, 1 fuse, 1 power Cord | 1 |
| BIO25 | Specification of Hormone assay analyzer (Chemiluminescence assay) | . Chemiluminescence detection system  . Paramagnetic micro particle solid phase  . Sample and reagent continuous loading  . Random access or batch mode  . 2-point calibration  . STAT  . Autodilution  . Maximum throughput:~180 results/h  . Continuous access to reagents, samples and supplies  . Sample load capacity  . Refrigerated reagent positions  . Reagents stable on board for up to 30 days (tracked in hours)  . Fewer workload pauses  . Simple and easy to use system with intuitive user friendly software  . Low maintenance (10 minutes/day)  . Immediate and consistent STAT processing with turnaround time of 15.6 minutes  On STAT assays  . Automatically runs priority tests first with up to 7 customizable priority bays  Or >15 STAT positions  A.C. 2 TONS | 3 |
| BIO26 | Specification of PCR Apparatus | 1. An automated sequence detection system for a high throughput continuous detection and quantitation of nucleic acid sequences by real-time PCR technique using in-built Peltier based thermal cycler. With a simplified workflow, intuitive  Software, it should offer exceptional reproducibility with minimal well-to-well  Variation.  2. Real-time amplification for measuring nucleic acids from purified samples using 96 and 384 well plates with 96 and 384 interchangeable block.  3. Measurement mode - Real-time measurement, on-line continuous display of readings during the run.  4. The system should be fully compatible with the full range of taqman assays including microrna assays, Long Non-coding RNA assays, and Pri-mirna  Assays.  5. The System should offer latest optics and technology providing enhanced fluorescence detection enabling accurate and sensitive data analysis.  6. The system should complete 40 cycle real time PCR reaction using flurogenic  5’nuclease assay and fast chemistries in a standard 384 well plate under 35 minutes. Instrument should also run in standard ramping mode with standard chemistry.  7. Sensitivity: Demonstrated down to 1 copy.  8. Resolution: Should detect as little as 1.5-fold changes in target quantities in single-plex reaction.  9. Upto Six decoupled excitation and emission filter channels for the greatest number of dye combinations and maximum multiplexing capabilities.  Excitation & Detection wavelengths:  6 excitation (450–670 nm) and 6 emission (500–720 nm) filter sets to enable collection of up to 21 unique combinations of wavelengths during a single run for multiplexing. Calibrated dyes at installation should be FAM, SYBR, SYTO9,  Fluorescein, SYPRO, JOE, TET, HEX, TAMRA, NED, BODIPY, TMRX, ROX, Texas Red, LIZ, Alexa fluor, Joda4.  10. Should support following blocks and volumes: 96-well standard ramp rate (10–100 μl reactions) 96-well high ramp rate (5–30 μl reactions) 384-well (5–20 μl reactions)  Any other block options should be also included.  5  All blocks should be easily changeable by the user.  11.Full compatibility with any standard or fast-cycling 384- or 96-well plates and reagents.  12.The vendor should provide ready made and validated Taqman primer probe  Assays for different genes in human, mouse, rat etc. In 384 well preloaded ready o use format to validate microarray hits quickly and economically.  13.Optimum reaction volumes for each application – 5 to 100 μl. The vendor should specify minimum working volume if lower than 5 μl. Preference would be given to those platforms that minimize reaction volumes to 2 μl or less.  14.The manufacturer should be able to provide a choice of ready-made assay kits or ready-to-make assay kits for Gene Expression as well as SNP analysis.  15.The vendor should provide comprehensive training on the operation of the instrument, chemistry options and software. This training should be provided freeof cost.  16.Any other additional protocol/accessory that would facilitate high-throughput analysis of gene expression especially using the Taqman chemistry should beincluded.  17. A business line PC Workstation and software (including offline analysis) should be provided with the system. However, a stand-alone instrument (such as built-in touch screen that provides one touch protocols for fast and easy assay setup for  Broad range of applications) would be preferred.  18.LAMINAR FLOW VERTICAL:  Recirculated lamina HEPA filtered air. Stainless steel working surface with high lighting & stainless steel portioned bench  19.REFRIGERATOR – 40C & REFRIGERATOR – 20C  Laboratory freezers -40c & -20c. Low temperature medical refrigerator  Specifications:  Microprocessor temperature control  Digital temperature display  Adjustable temperature of -40c to -20c.  Alarms for over temperature & under temperature  20.ULTRA HIGH SPEED CENTRIFUGE   |  |  | | --- | --- | | Maximum RPM | 20000 rpm | | Maximum RCF | 254,345 x g | | Maximum capacity | 6 x 250 ml | | Speed preset & display | 1 rpm | | Temperature range | -20c to +40c | | Timer | 9 hrs59 min & hold for free run | | Acceleration time | 10 setting | | Deceleration time | 10 setting | | Programmability | 20 memory | | Rotor recognition | 10 rotors | | Rotor radius set range | 0.1 mm to max. Radius | | Digital display | RPM,RCF,time,temperature,temp limit, program,2 accel/decal time, rotor number, rotor radius, self test | | 2 |
| BIO27 | HPLC unit with inbuilt operating modules | I. Binary Pump for Semiprep work   Operating pressure: upto 6000 psi   Flow accuracy: +/- 1.0%   Flow precision: ± 0.1% RSD   Programmable flow rate range: 001 - 20.0 ml/min in 0.001 ml/min increments.   No. Of eluents: 2   Pressure Ripple: <2.0%   Operating pressure limits: Programmable with high and low pressure limits, user selectable in psi, bar, kpa.   Flow extendable to 45.00 ml/min along with extended flow kit   Option for use under extended flow rate  II. Pump Operating Method: Gradient  III. Sample Injection System   Mannual option With Auto-sampler Injection  IV. Detectors:  Photodiode Array Detector (PDA detector)   Wavelength range: 190 - 800nm.   Light source: Prealigned, Deuterium lamp   Spectral Resolution: 1.2nm per photodiode with a total of 512 photodiodes, digital and optical (3D modes).   Data Rate: Upto 80Hz   Digital Resolution: 1.2nm - 600nm (2D mode).   Wavelength accuracy: +/\_ 1nm.  7   Linearity range: >5% at 2 AU Prolylparaben, 257nm.   Baseline noise: 10.0 x 10-6 AU, at 254nm.   Drift: < 1.0 x 10-3 AU/hour/°C, dry cell at 254nm.   Sensitivity setting range: 0.0001 - 2.0000 AUFS (under software control).   Filter setting range: 0, 0.1, 0.2, 0.5, 1, 2, 3   Path length: upto 10mm   Cell Volume: upto 8ul   Pressure: upto 1000psi   Wetted materials: 316 stainless steel, fused silica, Tefzel  .   The detector should have lamp optimization software.  Note: Should have the option to add on/use other detectors as and when needed.  V. Column oven model: Temperature Range Ambient +4°C to 60°C  VI. Columns   C-18 : 250 x 4.6 mm   C-8: 250 x 4.6 mm   Pre-column derivatisation kit for Amino Acids   Bio suite C-18 PA-A 3 μm: 4.6 x 250 mm   Protein pak: 7.8 mm x 300 mm  VII. Software and Computer System with add-on facility   Single point control of the entire HPLC   Mass detection software   Maintain security and regulatory compliance   Versatility for multitasking without multiple software package and should have different interface like quickstart Pro, Open Access, etc.   With Windows XP or better new version openvironments with compatible database.   Data Integrity, Advanced Security, Audit Trails.   Customizable data reports, online help wizards   Report publisher   Should have the facility for up-gradation of software and programme modules  VIII. Latest model Pentium quad core processor computer with 3.0ghz, 8 GB RAM DDR3, 1 TB hard disk and compatible with Windows XP Professional/ windows 8 or higher versions from standard company  IX. Coloured laser printer  X. Online UPS 3 KVA with at least 60 minutes back up.  XI. Water purification System (from tap water to ultra pure water for HPLC)  Cost of all assesory to be qouted together. | 4 |
| BIO28 | Flow cytometer | Excitation or more but should have this-  488nm (rated at 20,000hr life or more)  640nm (rated at 20,000hr life or more)  ●The system should have the capability of 6 fluorescence & 2 scatter(8 parameters)  Measurement with minimum 2 fluorescence channels with 640 nm laser upgradable  To 8 fluorescence & 2 scatter(10 parameters) measurement.  ●The system should have provision for future up gradation with violet laser with fixed aligned excitation & collection optics.  ●Sensitivity of the system should be less than 100 MESF for both FITC and PE channels.  ●The system should have threshold on multiple channel/parameters for a single sample run.  ●The system should have fixed optical assembly of laser upon the cuvette flow cell to ensure fixed alignment.  ●The system should have octagon shaped collection optics for enhanced sensitivity.  ●Speed- ≥10,000 events/second or better.  ●Signal processing 24-bit A/D conversion  ●The system software should be capable of establishing baseline settings of system performance and be able to adjust for instrument variability thereby automating instrument setup.  ●Automated software – controlled fluidic start –up. Shutdown & cleaning cycle should be possible in the system.  ●The system should be IVD approved  ●Data management system: pc workstation with at least 2.8 Ghz, latest intel/AMD processor, windows 8 or latest compatible software,1Tb hard drive, dvd/cd write combo drive, 18” lcd/ LED monitor and color laser printer.  ●The company should preferably have a flowcytometer training centre in India. | 1 |
| BIO29 | Fluorometer | Environmental Conditions  Operating power : 100 - 240 VAC, 0.4 A  Frequency : 50 – 60 Hz  Electrical output : 9 VDC, 1.33 A  Installation site : Indoor use only  Operating temperature : 15 –40°C  Maximum relative humidity : 20 –80%, non-condensing  Instrument Specifications  Instrument type : Benchtop Fluorometer  Instrument dimensions : ~ 6”(w) × 10”(l) × 2”(h)to(10x14x4)  Weight : ~1.5kg  Dynamic range : 5 orders of magnitude  Processing time : ≤5 seconds/sample  Light sources : Blue LED (max ~470 nm)  Red LED (max ~635 nm)  Excitation filters : Blue 430 – 495 nm  Red 600 – 645 nm  Emission filters : Green 510 –580 nm  Red 665 –720 nm  Detectors : Photodiodes: measurement  Capability from300–1,000nm  Calibration type : 2- or 3-point standard  Tube type : 0.5 ml Real Time PCR  (polypropylene) tubes  Warm-up time : 2 seconds  2.0 USB Drive : 2 Gigabyte  A.C. 2 TONS | 1 |
| BIO30 | Electronic weighing Machine(digital) | Weighing capacity 1 micrograms -200gm.  LED display accuracy .01/0.1mg. | 2 |

BLOOD BANK DEPARTMENT

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| --- | --- | --- | --- |
| S.N. | NAME OF EQUIPMENT | SPECIFICATION | TOTAL |
| BLB1 | STERILE CONNECTING DEVICE | 1. Compatible with all standard tubings of different types of blood bags. 2. Welding of wet to wet , wet to dry and dry to dry tubing combination. 3. In built sensor to monitor temperature during entire welding process. 4. LCD display for continuous monitoring of temperature. 5. Ensure complete sterility of blood. 6. No particle or chemical residue should form during welding procedure. 7. Ensure optimal tube alignment and no leakage of blood during process. 8. No cell necrosis and loss of blood product. 9. Single. wafer loading and one button operation   Compatible with all standard tubing of blood bags.Should be possible to weld external diameter 3.9 to 4.5 mms. And internal diameter of 2.9 to 3.1 mms  Sensor controlled temperature welding.  To be operational on 220 to 240 V at 50 Hz.  NB: cost for wafers may be ascertained during the tendering. Since it would be a proprietary item, and not possible to quantify requirement initially | 7 |
| BLB2 | Blood collection Mixer | 1.Automated mixer to help reduce over/under bleeds  2. Automatically clamps tubing when preset volume reached. 3 .Rocking action to mix blood with anticoagulant during collection  4. With display and alarm  Power Supply  230V± 10; 50 Hz  . volume setting  Pre- selection of volume to be collected . Tarring of bag volume before collection. Tarring range: 0-600g. Automatic storage and recall of set volume. Measure. Volume with best accuracy ‹ 1%  indications & alarms  LED indication on commencement of collection.  LED indication and audible alarm at the end of collection  Indication of time taken for collection  Indication of blood flow with audio alarm when blood flow is higher or lower than desired.  Continuous display of collected volume, flow and time during collection  Automatic clamping at termination of preset volume collection.  Automatic release of bag when lifted.  Continuous agitation of blood bags during collection. 12-16 rpm  Easy provision to change preset volume.  Should be suitable for all types of bags. | 15 |
| BLB3 | Blood Donor Couch | 1) Provides a comfortable position for the donor.  2) Variable positioning for either arm with a Comfortably wide arm-rests.  3) Arm rests have swinging out as well as up and down moving facility.  4) Reclining and upright body positions with a smooth shifting to any position.  5) Both sides have supporting brackets.  6) Drawers provided for the upkeep of equipment & consummables.  7) If a vasovagal attack occurs the Donor's head needs to be lowered immediately and his legs lifted above his heart level so that blood can flow back to the brain and other vital organs. This facility should be available  Technical Specifications 1 Comfortable chair type with soft padding for cushioning and rexin cover.  2 Seat, back rest and leg rest size designed for donor comfort.It should have step less electric remote controlled height adjustment approximately 58 – 60 cm.  3 Adjustable arm rest for donor’s comfort and phlebotomist friendly  4 Easily tilted to head low position, electrically operated and provide smooth shifting to Trendelenburg position.  5 Comfortable working level for the operator. Lifting capacity - Approx 200 kg.  6 4 Lockable castors for easy mobility  7 Storage Drawers for storing consummables & Blood Collection Monitors  8 UP/DOWN control  9 OPTIONS: 1.A paper roll holder can be fixed on the' upper part of the chair.  2.Melodious musical Headphone can be integrated for patient relaxation while blood donation is in progress    System Configuration Accessories, spares and consumables 1 Donor Couch -01  2 Dust Cover -01  3 Power cable -01  4 Arm Rests(pair) -01 pair  5 Remote control -01   Environmental factors 1 Shall meet IEC-60601-1-2 :200(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.   Power Supply 1 Power input :220-240V/ 50 Hz AC Single phase or 380-400V AC 50 Hz Three phase fitted with appropriate Indian plugs and sockets.  2 Resettable overcurrent breaker shall be fitted for protection  3 Suitable Servo controlled Stabilizer/CVT   Standards and Safety 1 Should be FDA or CE approved product  2 Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450  3 Manufacturer should have ISO certification for quality standards.  4 All electrical actuators and mechanisms should be housed inside the structure making the product safer  Comfortable chair type with soft padding for cushioning and rexin cover.  Seat back rest and leg rest size designed for donor comfort. Seat height approximately 58-60cm  Adjustable arm rest for donor’s comfort and phlebotomist friendly  Easily tilted to head low position, electrically operated.  To be operational on 220 to 240 v at 50 Hz | 17 |
| BLB4 | Folding donor couch for camps | 1. Should be convenient to transport in folded stacks. 2. Height adjustment for armrest tray, 3. Upright for optimal back support, 4. Support individual upto 150 kg 5. Lock into reclining position with ease | 14 |
| BLB5 | Automatic Component Extractor | 1. Automatic Blood Component Extractor 2. .Automatic calibration of scales 3. . Safe press system  4. . Automatic Calibration 5. .Electronic press control 6. . Operate indicator 7. . Flexible system for any type of bag 8. . Bar code system 9. . Dual press for separating plasma and transfer SAGM   Equipment used for automatic separation of components  Compatible with all multiple blood bags.  Automatic clamping and scaling  Microprocessor controlled through regulator with mechanism to reduce layer disturbance.  Provision for computer interface.   1. LCD screen and control panel | 7 |
| BLB6 | Blood Bank Refrigerator | Technical Specifications 1 Temp range-should have adjustable temperature control range from +1 degree to +8 degree C, factory preset at 4 degree C. 2 Capacity should accommodate 350 or more units blood and storage internal volume should be 700 liters.  3 Refrigerator system- a)The system should have high density CFC –free urethane foam insulation to protect cabinet from ambient temperature fluctuation. b)The system should have positive, forced, air circulation to maintain temperature uniformity at all shelf levels, with quick recovery +/- 1 degree C. c)The system should have sensors for activating automatic defrost cycle to minimize the frost build up. d)The system should have automatic condensate removal with no requirement for separate drainage lines.  4 Internal construction should be made up of high grade stainless steel (min 22 G) External construction Corrosion resistant sheet at least I mm thickness.  5 5.Internal Temp Control a)System should have temperature control range from +1 degree C to +8 degree C. b)Temperature control resolution should be better than 0.1 degree C. c)Cooling down time of max of 150 min on half load.  6 External ambient temp should perform in ambient temp up to +43 degree C.  7 Door System should lockable double glass doors for better safety  8 Safety system: a. system should have large and clear Digital displays for the set/run parameters. b. The system should have weekly chart recorder temperature chages c. The system should have key operated set point for the added security.  9 10.Alarms. a)System should have audible/visual warnings for over-temperature under temperature and power failure with visual status reports on critical functions. b)System should hace battery backup and connections for remote alarm contacts  10 Should have adjustments for uneven bases. The adjustments should be easy to use like rotating a screw at the legs in the base.  11 Scratch resistant internal lining of the cabinet (stainless steel or aluminium).  Standards and Safety 1 Should be FDA , CE,UL or BIS approved product  2 Should comply with WHO/UNICEF Specification Reference: BTS/RF.1  3 Test and inspections as per WHO Procedure reference: Laboratory Test Procedure: Standard Test Procedure: BTS/ Proc/ 3.  4 Should comply with International Electromagnetic Compliance standards like IEC OR EMC Directives.  5 Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450 | 8 |
| BLB7 | Blood Cell Washing System | Description of Function- Blood cell washer is used in washing blood cells for antiglobulin reagents Operational Requirements- Easy-to-use instrument should simplify work and save time in washing blood cells for antiglobulin reagent tests such as ABO compatibility, Rh testing, cross matching and the Coombs procedure.  Technical Specifications- 1 It should be made of stable Robust, All-Steel Cabinet. 2 Max. rpm:: 3,000 or more 3 Max. RCF: 800 gm or more 4 Max. Volume: 12-place stainless steel rotor for 12 mm X 75 mm or 10 mm X 75 mm 5 Drive Unit should be Three-speed, brushless induction motor, with sealed, Lubricated bearings. 6 Should have: Sensor-touch control buttons with digital LED display 7 Should have safety Indication of disorders by self –diagnosis program 8 Should Display the Number of wash cycles and Time selected, Saline Level, Lid latch and have Alarm at end of run. 9 Indication of digital selectable from 1 to 4 wash Cycles. System Configuration Accessories, spares and consumables 1 System as specified- 2 All consumables required for installation and standardization of system to be given free of cost.  Power Supply 1 Power input to be 220-240VAC, 50Hz fitted with Indian plug 2 Resettable overcurrent breaker shall be fitted for protection 3 Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications.( Input 160-260 V and output 220-240 V and 50 Hz) 4 The automated cell washing system should ensure precise cell washing in compliance with AABB guidelines. 5 Should be FDA , CE,UL or BIS approved product 6 Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450 8 Manufacturer/Supplier should have ISO certification for quality standards. 9 Comprehensive training for lab staff and support services till familiarity with the system.  Swing out rotor with 12-24 tubes size 12x75 mm  RCF 1000g  Brush less direct drive.  Keypad with sensor touch control buttons and digital display 1-4 selectable cycles.  Programmable speed and time.  Alarm at the end of the run.  To be operational on 220 to 240 V at 50 Hz | 4 |
| BLB8 | Deep freezers(-80˚C) | Range up to -80˚C (Adjustable  Internal capacity-minimum 300 liters net.  Vertical cabinet(upright  Thermal capacity should be indicated in terms of tonnage at maximum ambient temperature of 33˚C  Constuction  Solid cabinet casing with phosphated cold rolled sheet steel to prevent corrosion. Acrylic varnishing of high quality and lockable castor. It should have 5 or 6 shelves of stainless steel of 22 G. outside sheet shall be of mild steel 1 mm (min) and inner side of stainless steel of 0.8 mm (min thick)  Control system  Micro processor based temperature controller with digital temperature display LED-LCD with seven days graphic inkless temperature recorder with rechargeable battery back up including charger maintenance free and insensitive to vibration Details of battery No. V. ah. Etc. and details of battery charger shall be indicated  Refrigeration system  Heavy duty refrigeration system, maintenance free below-80˚C cascaded connection with hermetically sealed refrigeration compressors and reliable cascaded refrigeration to minimise noise and vibration air cooled with security lock to prevent unintentional switch off shall be supplied it should have short cooling time of 4 to 5 hours at maximum ambient temperature of 33˚C The equipment should be of continuous duty and frost free. Access port for Co2 back up for refrigeration system in case of machine failure.  Alarm  It should also have audio visual Electronic alarm system independent of power supply  Insulation  About 17.5cm high density polyurethane or equivalent gaskets-double seal silicon  Electric requirements  To be operational on 220 to 240 V at 50 Hz  A line voltage corrector of appropriate rating should form part of standard configuration  Line Voltage corrector  A line voltage corrector of appropriate rating should form part of standard configuration.  Line voltage corrector:  Copper wound single phase automatic line voltage corrector conforming to IS:9815(pt.1)/94 with latest amendments or equivalent international standards fitted with a voltmeter and switch to indicate output/input voltage as under:  Capacity/rating : As per the requirement of the equipment.  Input voltage : 160 to 260 volts, 50 cycles.  Output voltage : 220 volts to 240 volts.  The equipment should be supplied with 2 meter chord at input and fitted with plugs of appropriate rating (15 amp)  Make of the line voltage corrector shall be indicated.  Additional sepifications  Complete with comprehensive set of spare parts including a spare compressor, refrigerant gas cylinder etc. and a suitable capacity voltage stabilizer The make, rating model, description, specifications, price, quantity of each item shall be furnished separately. The spare shall not be quoted in the price of main equipment.  The deep freezer is proposed to work at maximum ambient temperature of 33˚C As such , the performance tests as per clauses 5.6 and percentage running time etc. of IS:7872/1975 with all amendments or equivalent international standards is proposed to be carried out at maximum ambient temperature of 33˚C. The tenderes are therefore, advised to furnish performance value with tolerances in respect of these tests  The complete information as per clause 10.1 and 10.3 shall be furnished as per IS:7872/75 or equivalent international standards  Necessary catalogues, technical write up shall be attached with the offer  Performance, efficiency, other factors such as distortion etc. as applicable be also furnished.  Complete construction, details in respect of material specification, thickness, finish etc. are to be furnished  Notes for the tenderes  The proprieties, specification details,thickness of the insulation, construction of the cabinet, door etc. shall be furnished  Complete details, e.g. make, model, rating description of important equipment/apparatus shall be furnished only ISI/DSG&D approved makes item shall be used in case of indigenous stores  Training of the staff of the consignee for functioning/operation, preventive maintenance shall be arranged by the successful tenderes at his cost at the consignees end during the trial run.  The deviations with technical details/explanations shall be brought out in a separate sheet.  Thermal capacity shall be determined at the following conditions:   1. Evaporating temperature -23.3 plus minus 0.5˚C/ 2. Condensing temperature -55 plus minus 1˚C 3. A maximum ambient temperature of 33˚C   Compressor suction gas temperature-32 plus minus 1˚C  The equipment shall have secutity lock to prevent unauthorized opening  Note: configuration should have all standard accessories and any options may be separately indicated. Each item of standard accessory included as a part of configuration should be indicated. | 6 |
| BLB9 | Deep freezers (-40˚C) | Range up to -40˚C  Internal capacity-minimum 400 liters net.  Vertical cabinet(upright)  Thermal capacity should be indicated in terms of tonnage at maximum ambient temperature of 33˚C  Constuction  Solid cabinet casing with phosphated cold rolled sheet steel to prevent corrosion. Acrylic varnishing of high quality and lockable castor. It should have 5 or 6 shelves of stainless steel of 22 G. outside sheet shall be of mild steel 1 mm (min thickness) and inner side of stainless steel of 0.8 mm (min thick)  Control system  Micro processor based temperature controller with digital temperature display LED-LCD with seven days graphic inkless temperature recorder with rechargeable battery back up including charger maintenance free and insensitive to vibration Details of battery No. V. ah. Etc. and details of battery charger shall be indicated  Refrigeration system:  Heavy duty refrigeration system, maintenance free below-40˚C cascaded connection with hermetically sealed refrigeration compressors and reliable cascaded refrigeration to minimise noise and vibration air cooled with security lock to prevent unintentional switch off shall be supplied it should have short cooling time of 4 to 5 hours at maximum ambient temperature of 33˚C The equipment should be of continuous duty and frost free. Access port for Co2 back up for refrigeration system in case of machine failure.  Alarm  It should also have audio visual Electronic alarm system independent of power supply  Insulation:  About 17.5cm high density polyurethane or equivalent gaskets-double seal silicon.  Electric requirements  To be operational on 220 to 240 V at 50 Hz  A line voltage corrector of appropriate rating should form part of standard configuration  Line Voltage corrector  A line voltage corrector of appropriate rating should form part of standard configuration.  Line voltage corrector:  Copper wound single phase automatic line voltage corrector conforming to IS:9815(pt.1)/94 with latest amendments or equivalent international standards fitted with a voltmeter and switch to indicate output/input voltage as under:  Capacity/rating : As per the requirement of the equipment.  Input voltage : 160 to 260 volts, 50 cycles.  Output voltage : 220 volts to 240 volts.  The equipment should be supplied with 2 meter chord at input and fitted with plugs of appropriate rating (15 amp)  Make of the line voltage corrector shall be indicated  Additional sepifications  Complete with comprehensive set of spare parts including a spare compressor, refrigerant gas cylinder etc. and a suitable capacity voltage stabilizer The make, rating model, description, specifications, price, quantity of each item shall be furnished separately. The spare shall not be quoted in the price of main equipment  The deep freezer is proposed to work at maximum ambient temperature of 33˚C As such , the performance tests as per clauses 5.6 and percentage running time etc. of IS:7872/1975 with all amendments or equivalent international standards is proposed to be carried out at maximum ambient temperature of 33˚C. The tenderes are therefore, advised to furnish performance value with tolerances in respect of these tests.  The complete information as per clause 10.1 and 10.3 shall be furnished as per IS:7872/75 or equivalent international standards  Necessary catalogues, technical write up shall be attached with the offer  Performance, efficiency, other factors such as distortion etc. as applicable be also furnished  Complete construction, details in respect of material specification, thickness, finish etc. are to be furnished  Notes for the tenderes  The proprieties, specification details,thickness of the insulation, construction of the cabinet, door etc. shall be furnished  Complete details, e.g. make, model, rating description of important equipment/apparatus shall be furnished only ISI/DSG&D approved makes item shall be used in case of indigenous stores.  Training of the staff of the consignee for functioning/operation, preventive maintenance shall be arranged by the successful tenderes at his cost at the consignees end during the trial run.  The deviations with technical details/explanations shall be brought out in a separate sheet.  Thermal capacity shall be determined at the following conditions:   1. Evaporating temperature -23.3 plus minus 0.5˚C/ 2. Condensing temperature -55 plus minus 1˚C 3. A maximum ambient temperature of 33˚C   Compressor suction gas temperature-32 plus minus 1˚C  The equipment shall have secutity lock to prevent unauthorized opening  Note: configuration should have all standard accessories and any options may be separately indicated. Each item of standard accessory included as a part of configuration should be indicated | 8 |
| BLB10 | Laminar flow bench | Features  Floor model, Horizontal flow, well-lighted. Work surface, low vibration and noise, easy to manoeuvre due to casto sheel provision. Over all dimension of work space of approximately 1200x600x600 mm  Cabinet  Stainless steel sheet of 20 SWG lining.  Front panels  Removable transpatent scratch resistant sheet of approximately 6mm thickness  Side panels  Fixed transparent scratch resistant sheet of approximately 6 mm thick ness.  Work table  Stainless steel of 20 SWG lining  Pre filters  Filtration efficiency of 98% for all types of particles of sizes 8 micron and larger.  Hepafilters (fine filters)  Filtration efficiency of 99.9% for all types of particles of sizes 0.3 micron and larger housed in a frame with leak proof gaskets  Motor blower  Dynamically balanced and specially constructed to suit low noise and vibration with adjustable speed. Motor shall conform to ISS or any international specifications.  Air velocity  Should not be more than 100 fpm over the work area  Lighting:  Fluorescent tube lights with diffuser acrylic to get 120 decalux on work surface.  Ultra violet light source  Shall be provided  Power supply  220/240 volts, 50 cycles, single phase. The equipment shall be provided with both 5 amp and 15 amp plug units inside the cabinet along with a line voltage corrector of appropriate rating  Installation, commissioning and trial run will be the responsiblility of the supplier  Line voltage corrector  Copper wound single phase automatic line voltage corrector conforming to IS:9815/89 with latest amendment fitted with a voltmeter and switch to indicate output/input voltage as under:  The equipment should be supplied with 22 meter chord at input and fitted with plugs of appropriate rating (15 amp)  Make of the line voltage corrector shall be indicated.  Manufacturers shall submit the manufacturer’s test certificate of each LVC as per IS to be supplied along with the equipment. However, type test certificate for one number of LVC shall be submitted at the time of inspection.  Manometer  Should be provided with appropriate manometer to measure the air pressure . The firm shall positively submit printed illustrated technical literature/leaflet including the model quoted by them . If quoted model is modified version of their any standard model that also be indicated in the offer. | 3 |
| BLB11 | Di-Electric tube sealer | Should be a heavy duty tube-sealer.  Should be for bench-top use  The sealing time should not be more than 2 seconds  Sealing triggering should be automatic  Should also have extended portable hand unit  Should have indication lamps.  No warm-up time should be required.  Should ensure easy separation of tube segments after the sealing.  Should be simple to handle  To be operational on 220 to 240 at 50 hz | 8 |
| BLB12 | Ultrasonic cleaner | Table top model  Lid of SS for ultrasonic cleaner  Inner SS tank of 8 to 10 liters capacity  Drain in rear bottom  Digital timer control of approximately 60 minutes  Frequency-minimum of 35 khz.  Built in heater of 30 to 80˚C  Digital temperature monitor  To supply inset baskets made of SS, perforated for holding to be cleaned -2 nos.  To be operational on 220 to 240 V at 50 Hz | 3 |
| BLB13 | Manual plasma expresser | Acrylic compression plate with spring action designed to exert uniform pressure on blood bag.  Powder coated MS cabinet with provision for holding the bag in position. | 6 |
| BLB14 | Plasma thawing bath | Should be able to thaw 4/8 plasma bags(FFP/Apheresis or plasma bags of any size)  Should be a water bath based system operating at a preset and precise temperature of 37˚C  Should have two separate basket assemblies with built-in fingers for securely holding the plasma bags of all sizes.  Should give an alarm when the plasma bags are thawed.  Provision for programmable time setting for length of thawing  Should have digital timer clearly displaying the programmed set time or remaining cycle in minutes.  Should have audio visual over-temperature alarm system  Should have a deep thawing chamber with a stirrer  Should have a system to drain the chamber within 3 minutes.  Should be supplied with a cover to keep the unit covered when not in use. | 6 |
| BLB15 | platelet incubator and platelet agitator | 1. Platelet incubator:   Platelet incubator should have the provision to store the agitator for 42 platelet bags.  Should have transparent outer door.  Door should have one hand operation with locking facility.  Should be able to maintain a temperature of 22 ± 2 degrees  Should have digital temperature indicator  7day inkless chart recorder with battery backup for continuous operation during power failure.  Should have audible visual high/low alarm for temperature control  Platelet incubator should be made of stainless steel  Shuld have forced air circulation method for the uniformity of the temperature at all sides of the incubator  Chamber mounted electrical outlet for agitator should be available   1. Platelet agitator:   Should be able to store minimum 42 random platelet bags or apheresis bags or bags of different sizes.  Gentle side to motion (1.5” or 38mm), with 70 strokes/minute± 10.  Removable drawers for storage of any size product.  Sturdy one piece drawers with holes for complete air circulation across both surfaces of platelet bags.  Heavy duty ball bearing gear motor for noise less and continuous operation for 24 hours a day 365 days a years.  Built in motion alarm for unplanned ceased agitation.  Should have pause button. | 4 |
| BLB16 | Dry bath | Bench top test tube holder  Temperature to be maintained at 37˚C  To be operational on 220 to 240 V at 50 Hz | 6 |
| BLB17 | Water still | Capacity of 5 liters  Made of stainless steel  With ISI mark | 4 |
| BLB18 | Water Bath(Serological) | Stainless steel chamber  Adjustable temperature( Range 10˚C-70˚C)  Slot for thermometer  Visual display of temperature.  Stainless steel top cover | 6 |
| BLB19 | Micro pipettes-variable | Each set consisting of one of  2-10 micro litres  10-100 micro liter 2 sets per blood bank  100-200 micro liters  200-1000 micro liter  2-10 micro litre  Accuracy Plus minus 1%  Reproducibility 1%-0.5%  10-150 micro litre  Accuracy Plus minus 1%  Reproducibility 1.5%-1%  100-1000 micro litre  Accuracy Plus minus 1%  Reproducibility 0.5%-0.4%  Note:-the combination of micropipettes in terms of set has been given from 2 ml which is indicative in nature. Any other combination to cover this volume may be considered | 9 |
| BLB20 | General laboratory centrifuge for microplates | Features  Bench centrifuge microprocessor control with timer speed control safety measures having automatic door inter-lock, imbalance detector and self-balancing drive. The braking system should have high and low, also off and coasting  Maximum rated speed  7000 plus minus 10 RPM approx with swing out rotor  Max. force 6000 gms. Approx  Max.rotor capacity 4x250ml  Adapter for every popular size like 5 ml to 50 ml should accommodate upto eight 96 well micro plates.  Built in timer and speed regulator with suitable speed indication and lid lock system with digital display of speed and time.  Power supply 220/240V. 50 cycles, single phase.  A line voltage corrector of suitable rating should be supplied as part of configuration | 5 |
| BLB21 | Line voltage corrector | I.S.D. certified copper wound single phase automatic line voltage corrector conforming to IS:9815/89 with latest amendment fitted with a voltmeter and switch to indicate output/input voltage as under:  Capacity/raitings(KVA)  As per the requirement of the equipment  Input voltage  160 to 260, 50 cycles  Output voltage  220 volts to 240 volts adjustable.  The equipment should be supplied with 2 meter chord at input end fitted with a plug of appropriate rating (15A)  Installation, commissioning and first trial run will be the responsibility of the supplier | 9 |
| BLB22 | Sealer, stripper and cutter for blood bag tubing | Features:  For sealing and cutting the blood bag tubings  Each sealer, stripper and cutter should be supplied with 50,000 (fifty thousand) aluminium clips.  The firm shall positively submit printed illustrated technical literature/leaflets indicating the model quoted by them. If quoted model is a modified version of their any standard product that also be indicated in the offer. | 14 |
| BLB23 | Needle destroyer and shredders | Equipment for safe and quick disposal of used syringes and needles to free from infection.  The needles are destroyed by melting the same using induction heating principles.  Based on induction heat principle.  Unit to have a generator to generate required power for induction heating to convert hypodermic needles into its original harmless components( chromium oxide, nickel oxide, ferrous oxide)  Fair of alloy electrodes to melt the needles on contact of over 1500˚C  Mounting of electrodes in such a way as to melt the needle fully (length –wise)  Built in S.S. sharp blade cutter to cut the barrel of the syringe.  Needle destruction rate 2-3 needles per minute  Provision of collection tray (removable) for needle refuses and syringe barrel buts. Tray to have a see through panel to view waste.  Capacity:  Container capacity 500 needles and syringes container cum stand for 500 syringes approximately. Unit is housed in a neat power coated metal box with provision of On/Off switch. Pilot lamp and safety. Audio visual indication with buzzer for completion of needle crushing.  Power chord with suitable plug is provided.  Power supply:220 volts 10% 50 Hz AC. Rechargeable battery backup 12 volts or higher as per suitability Unit available with accidental safety device against electric shock prevention with automatic cut off. | 14 |
| BLB24 | Walk-in-cooler store for storage of blood & reagents & kits | Inner dimension of the cooler  9-12’x8-10’x8-10’ or above  Ambient temperature  2-6˚C (\*-2˚C)  Interior of the walk-in-cooler  Each wall of the walk-in-cooler should have shelves for keeping the test reagents and test kits. There should be 2 ft. space between the shelves with 1 ft. space between the floor and lower shelf of the wall  There should be temperature monitoring and alarm system outside the door. The door would have double locking device  Note- It is understood that most of the companies in the field of manufacture of walk-in-cooler fabricate it to the requirement. The other details of specifications could therefore, be obtained from the manufactures | 6 |
| BLB25 | timer clock | Range  1 hour  Minimum setting accuracy  Plus minus 1 minute  The firm shall positively submit printed illustrated technical literature/leaflet indicating the model quoted by them. If quoted model is a modified version of their any standard product that also be indicated in the offer | 10 |
| BLB26 | VDRL shaker (rotator)- | Feature  For rotating slides for VDRL tests  Specification  Platform size 300x300mm spring holder which can accommodate concave slides etc.  Rotation  180 rpm continuously adjustable with regulation  Timer  0 to 30 minutes for control of shaking duration with 1 minute interval.  Power supply  220-240 volts, 50 cycles, single phase with complete chord and plug.  The firm shall positively submit printed illustrated technical literature/leaflet indicating the model quoted by them. If quoted model is a modified version of their any standard product that also be indicated in the offer | 10 |
| BLB27 | Electronic Plasma expresser | Must ensure automatic clamping to prevent red cells from mixing with plasma.  The clamping method must be by infra red beam sensor.  Should electrically operated-240 volts.  Must be compact and weighing not more than 4 kgs.  Should have the provision of attaching at least 4 more expresser powered by the same electrical. | 4 |
| BLB28 | Digital Analytical Balance (Single pan) | Capacity  200 grams  Readability   * 1. grams   Linearity  Plus minus 0.002 grams  Reproducibility  Plus minus 0.001 grams  Dimension  To be declared  Stainless steel path  Features  Percentage weighing, counting tar (0-200 grams) auto calibration with built in masses  The balance should be supplied with graft shield.  Power supply  220/240 volts, 59 cycles, single phase  The balance should be supplied with graft shield. The equipment should be suitable for 0 to 40 deg C at 95% ambient condition  Complete technical specifications, illustrative technical literature/leaflet etc. shall be enclosed along with the offer indicating the model quoted  Completed and satisfactory type test certificate as per T/E specification shall be submitted at the time of final inspection. | 2 |
| BLB29 | PH Meter | Type  Digital electronic PH Meter with combination PH  PH Range   1. to 14.00 PH with 31/2 digital display   Millivolt range   1. to 1999 mv   Accuracy, repeatability and resolution   * 1. PH   Calibration solution should be provided  Temperature compensation and PH standardization  0 deg to 100 deg C (Manual)  Electrical power supply  220/240 volts, 50 cycles, single phase  Ambient temperature  0 deg to 40 deg C. 40 deg C at 95% RH.  Equiment shall have suitable, rechargeable battery with a battery charge. The firm shall positively submit printed illustrated literature/leaflet, indicating the model quoted by the firm. If quoted model is a modified version of their any standard product that also be indicated in the offer  Type and details of battery being supplied shall be clearly indicated e.g. V, AH, number etc.  A suitable battery charger shall also be supplied so that charging batteries continue when the equipment on main.  Equipment shall be supplied in suitable case. | 10 |
| BLB30 | Cell Counter | Features  Fully automatic, hematology analyser with laboratory computer and built in printer/external printer.  Parameters  RBC, Hb, WBC, Hct (Haematocrit) and Platelet  Sample Size  30-40 micro litre with automatic cleaning internal and external  Complete cycle time  (a) Auto start up-120 seconds approx.  (b) Run: 60 second  (c) Daily shutdown: 120 seconds.  Data display with printing facility  LCD/LED terminal with printing facility  Power supply  220/240 volts, 50 cycles, single phase, with inbuilt FIE safety against high load voltage.  Equipment with standard accessories, reagents for at least 3000 blood samples and One line voltage corrector of appropriate rating as per standard configuration  Line voltage  Copper wound single phase automatic line voltage corrector conforming to IS:9815/89 with latest amendment fitted with a voltmeter and switch to indicate output/input voltage as under  Capacity rating (KVA)  As per the requirement of the equipment  Input voltage  160 to 260 volts , 50 cycles  Output voltage  220 volts to 240 volts adjustable  The equipment should be supplied with 2 meter chord at input and fitted with plugs of appropriate rating (15 amp)  Make of line voltage corrector shall be indicated  Manufacturers shall submit the manufacturer’s test certificate of each LVC as per BIS to be supplied along with the equipment. However type test certificate forone number of LVC of conducting trials at the time of inspection installation, commissioning and trial run will be the responsibility of the supplier | 6 |
| BLB31 | CD4 enumeration machines | 1. The working principle shall be single platform fluorescence based cytometry. 2. Machine shall be capable of measuring absolute number of CD4 cells precisely in whole blood. Other performance indicators should be part of bidding process. 3. Machine shall have automated data analysis, data display system and provision for print out of results. 4. It shall be robust so that it does not need frequent laser adjustment and with stand voltage fluctuations   A Compatible UPS with back up of 30 minutes shall be supplied with the system.   1. It shall be a tabletop model.   Supplier shall provide on site training | 4 |
| BLB32 | Refrigerated centrifuge | Micro processor controlled system to make operation automatic  Programmable memory  Memory with tamper proof facility  Swing bucket blood bank rotor  With metal buckets, 6x1000ml, wind-shielded. Suitable adapters for 12 blood bags of 350 ml & 450 ml  Removable plastic oval cups to hold single/double/triple/quadruple blood bags.  Centrifugal force  Minimum ceiling -5000 g.  Maximum speed  Micro processor controlled rotor speed to within 10 rpm of set value.  Temperature range  -10 ˚ C to +40 ˚C  Programmable time  0-99 minutes with minimum revolution of 1 minute.  Digital display of temperature, speed and time No. of digit resolution etc. shall be indicated in the offer.  Motor imbalance ditection  Automatic shut down of centrifuge if rotor load is out of balance with appropriate indicator.  Stainless steel chamber  Easy to clean, corrosion resistant with provision of both drain and condensed water collection container.  Power requirement  220/240 watts, 50 Hz single phase AC supply  The equipment shall be suitable for operation from 0 to 40 ˚ C at 90 % Rh. Electronic circuitry shall be tropicalised for this ambient condition  The equipment shall have lockabale castors.  A line voltage corrector of appropriate rating should form part of standard configuration  Line voltage corrector:  Copper wound single phase automatic line voltage corrector conforming to IS:9815(pt.I)/94 with latest amendments or equivalent international standards fitted with a voltmeter and switch to indicate output/input voltage as under  Capacity/rating : As per the requirement of the equipment .  Input voltage: 160 to 260 volts, 50 cycles.  Output voltage: 220 volts to 240 volts.  The equipment should be supplied with 2 meter chord at input and fitted with plugs of appropriate rating (15 amp)  Make of the line voltage corrector shall be indicated.  It shall have a security lock to prevent unintentional switch off and also unauthorized opening of the equipment | 8 |
| BLB33 | Binocular microscope with dark ground attachment | The microscope shall be fitted with standard outfit  Achromatic loaded  Objective spring  4x(NA 0.1)  10x(NA 0.25)  40 x(NA 0.65)  100 x(NA 1.25)  Eye pieces 5x, 10xone pair each  Oil imperession on pair each  In-build  Arrangement of illumination iwht halogen lamps fitted directly under field lenses.(koehleres system)  Transformer and other electrical fitted inside the base with extra mirror attachment  Condenser  Bright field abbe’s NA 1.25 and dark field NA 1.25  Nosepiece  Quadruple revolving on smooth ball bearing  Power supply  220-240 volts, 50 cycles single phase  Inclination angle  To be declared by the bidder  Spare lamps  Halogen 6 numbers to be supplied with each microscope | 10 |
| BLB34 | Bench top centrifuge (table top centrifuge)- | Capacity  16x15ml  Built in time and speed regulator with suitable speed indication and lid lock system  RPM  5000 to 6000 rpm  Power supply  220/240 volts single phase, 50 cycles plus minus 12 AC  A line voltage corrector of suitable rating should form part of the configuration as per IS:9815/89 the firm shall submit printed illustrated technical literature/leaflet indicating the model number. If quoted model is a modified version of their any standard product that also be indicated in the offer | 10 |
| BLB35 | Automatic programmable ELISA washer for microplate and strip | Hardware:  Manifolds 8 or 12 channel and autoclave  Microplate 8-12 channel and strips.  Power:220-240 volts, 50 Hz  Software:   1. Wash method:   Plate or strip mode , plate shaking, overflow washing, aspiration, crosswise aspiration, bottom washing and aspiration and disinfection programmes.   1. Programmers:minimum 50 user programme. 2. Wash cycle: up to 8 3. Dispensing:50-3000ul.   Soak time: 0-99 second in strip mode  0-59 minutes in plate mode  Shaking: time : 1 to 59second speed:8 step | 3 |
| BLB36 | Refrigerated water bath | Features  Should include timer of 2 hours fixed and variable temperature control, over temperature safety limit with audio visual alarm, power switch and digital temperature display number of digit and resolution shall be included in the offer  Capacity  65 litres  Storage capacity  Holds up to minimum 5 stainless steel racks  Overall interior dimension  Should be indicated by the bidder  Operating temperature  + 4 ˚control sensitivity plus minus 0.2˚C.  Uniformity plus minus 0.2˚C.  Ambient temperature may be as high as 45˚C.  The equipment should be able to thaw 15 plasma units in about 90 minutes. The equipment should have:   1. Stainless steel filter screen for protecting pump intake from debris such as levels etc. 2. Stainless steel tank of 22 gauge designed with curved corners for easy cleaning 3. Stainless steel lid at least 20 gauge. 4. Outside mild stoel sheet of 18 gauge.   The following accessories should be part of configuration   1. Compression rack holder 2. Frozen plasma rack holder   Thermometer for visual verification of water temperature | 3 |
| BLB37 | Blood bank refrigerator (capacity:300 standard blood bags)- | Capacity  Should be able to accommodate 300 standard blood bags for each of 450 ml capacity  Temperature rating  2 ˚C to 6 ˚Cwith setting accuracy plus minus1 ˚ C.  Should have provision for air circulation  Digital temperature, display and controller seven days graphic inkless temperature recorder with rechargeable battery back up including charger and audio visual alarm system, details of battery No: V; AH, and battery charger shall be fully explained  Technical data  Input volrage 220/240 volts 50 cycles, single phase AC.  Weight  To be indicated by the bidder  Construction  Outside CR sheet at least 1 mm thick and inside stainless steel of at least 22 G. it should have 5-6 rolled out type drawers of stainless steel of 22 G.  A line voltage corrector of appropriate rating will form part of standard configuration  Line voltage corrector  Coper wound single phase automatic line voltage corrector conforming to IS:9815/89 with latest amendment fitted with a voltmeter and switch to indicate output/input voltage as under  Capacity/rating  As per the requirement of the equipment  Input voltage  160 to 260 volts, 50 cycles. Phase AC  Output voltage  220 to 240 volts adjustable  The equipment should be supplied with 2 meter chord at input and fitted with plugs of appropriate rating (15 Amp)  Make of line voltage corrector shall be indicated  Manufactures shall submit the manufacturer’s test certificate of each LVC as per IS to be supplied with the equipment However, the type test certificate for one number of LVC, as per IS from independent laboratory witnessed by DGS&D inspecting official shall be submitted at the time of inspection.  Installation, commissioning and trial run will be the responsibility of the supplier  Surface treatment and power coating.  All the mild steel section shall be duty digressed, derusted, phosphate etc. by seven tank process. Facility available with the firm shall also be clearly indicated in the offer. Mild steel surface shall be duly powder coated after this surface treatment  Technical literature:  The firm shall positively submit illustrated technical literature/leaflet indicating the model quoted by them. If quoted model is a modified version of their and standard model that also be indicated in the offer.  Note: configuration should have all standard accessories and any options may be separately indicated. Each item of standard accessory included as a part of configuration. Should be indicated. | 8 |
| BLB38 | Hb Analyser (For Hemoglobin) | Should work on the principle of Isobestic Points  Measuring range 0-25.6 g/dl  Results displayed in 10 seconds  Work on capillary, arterial or venous blood  Factory calibrated.  Last result display  Photometry at 506nm and 880nm.  Serial port for printer connectivity  Work on 4 AA batteries and also adapter  Should have a Self test Function.  Have an audio signal when the result is displayed.  Specification Microcuvette  Cuvette made of Polystrene in a single piece  Cuvette should hold 10 μl of blood  Working temperature 10-40o C. | 3 |
| BLB39 | Glucose Analyser ( For Glucose) | Work on dual wavelength - 660 nm for haemoglobin measurement and 840  nm.  Data storage upto 600 results with the date and time.  Results displayed within 40-240 seconds  Works on capillary, venous or arterial blood  Measuring range 0-400 mg/dl. Can be extended upto 800 mg/dl.  Should have a Self Test function  Works on 4 AA batteries and also adapter.  PC Connectivity for data transfer  Serial port for printer connectivity  Should have an audio signal when the result is displayed  Factory calibrated.  Should have a QC function.  FDA cleared for screening of diabetes  Specifications Glucose Microcuvette  Cuvette made up of Polystrene  Work on Glucose Dehydrogenase principle.  Hold 5 μl of blood.  Work at 2-8oC. | 1 |
| BLB40 | Albumin Analyser ( For MicroAlbumine in urine) | Provide quantitative results  Work on spot urine samples  Measuring range 5-150 mg/dl  Measuring time – Within 90 seconds  Serial port for one way data communication  Have a QC function  Photometry at 610 nm.  Factory calibrated analyser with a traceability to CRM 470.  Should have a Self Test Function.  Data storage and review possibility.  Specification Albumin Microcuvette  Made of Polystrene in one piece.  Hold upto 18 μl of urine sample  The immuno chemical should be complete in 90 seconds. | 1 |
| BLB41 | WBC Analyser ( For WBC Count in Blood) | Determines total WBC Count.  Measuring range 0.3-30×109 /L  Works on capillary or venous blood.  Measuring time – Within 3 minutes  Should have a Self Test Function  QC is performed for each test  Should have a port for printer connectivity  Power supply - 6 AA batteries or adapter  Should have an in built microscope and camera  Specifications of WBC  Made of Polystrene in one piece  Should hold 10μL of sample  Should contain a lysing and staining agent | 1 |
| BLB42 | Plasma/Low Hb Analyser ( For Hb in Blood Bag) | Should determine low Hb levels in plasma, serum or aqueous solutions  Should work on dual wavelength of 570nm and 880 nm.  Measuring time – Within one minute  Measuring range 0-3 g/dl  Coefficient of variation ≤4%  Specifications of Plasma/Low Hb Microcuvette  Made up of Polystrene in one piece  Should have a sample volume of 20μL.  Should be based on Azidemethemoglobin | 2 |
| BLB43 | Fully automated Blood Grouping analyser | Microplate  96 wells  Disposable Care free  Minimum 100 sample per hour  For forward & reverse grouping & Rh typing with CCD digital reader  Interpretation software | 2 |
| BLB44 | Fully automated Blood Grouping & cross matching system | Gel technique based  For forward grouping  Reverse grouping  Rh typing  Cross matching  DCT  Antibody screening  Antibody identification  CCD camera  Automated evaluation software | 2 |
| BLB45 | PCR System | Sample compartments should have interchangeable sample blocks made of aluminum/silver with the following sample capacities:  96x0.2ml  60x0.5ml  Should have capacity for upgradation to a higher sample well block size.  Multiple peltier based technology, ramping of 3.3˚C/Sec for heating and 2˚C/sec for cooling  Menu driven programming  Temperature monitoring mode should be having all modes. i.e. block in.sample probe and algorithm.  Minimum temperature range: 4˚C to 99.9˚C  Temperature accuracy:plus/minus 0.5˚C over a range of 35˚C to 100˚C  Minimum programmers capacity:50  Should have auto-start capability  It should have a heated lid with temperature of 105˚C fitting tightly over the tubes.  The machine should be able to maintain 4˚C at the end of the cycle.  Should LCD display with full numeric key pad aand LDC display should be able to show at least  PCR profile in terms of denaturation temperature and time: annealing temperature and time:  Extention temperature and time alongwith number of onoing cycle.  Internal memory: it should be able to store at least 50 PCR records | 2 |

BURN & PLASTIC SURGERY DEPARTMENT

|  |  |  |  |
| --- | --- | --- | --- |
| S No | Name of item | Specifications | TOTAL |
| BPS1 | Radiofrequency cautery | * Microprocessor controlled, Dual Engine High frequency ESU * Primary frequency: 4 MHz or more * Dual Frequency/ Secondary Frequency : 300 KHz or more * Output wave form: Sine wave to prevent arc phenomenon * Should have the facility to use CUT/ BLEND/ COAG through Monopolar 1 socket at High Frequency * Should have the facility to use Forceps for COAGULATION through Bipolar socket at High Frequency * Should have the facility to use PLASMA SPRAY for rapid coagulation of wide area through Monopolar 2 socket at 300 KHz * Should have the facility of selecting output pulse time from 0.1 to 2 sec in steps of 0.1 sec and 2 to 20 sec in steps of 1 sec. Should also have the facility for Continuous output. * The system should allow the Dual / Secondary Frequency functions to be operated along with the HF function * Should display   + Mode (Cut/ Coag/ Belnd/ Bipolar)   + Monopolar 1/ Bipolar output value   + Output time   + RF Output ON/ Off   + Return Pad connection Alarm display with acoustic signal   + Monopolar 2 output sate and value   + Error * Easy to use output control selection and mode change for Monopolar 1, Monopolar 2 and timer control selection * The system should stop when there is any error * Maximum Output   + Pure Cut : 300W   + Pure Coag : 120 W   + Blend : 240W   + Plasma Spray: 200W * Equipotential return pad to avoid injuries * Should have the option of Hand piece as well as Foot switch operation | 2 |
| BPS2 | Liposuction machine with cannula | Power assisted liposuction machine with all accessories.LS2 system with k pump. | 2 |
| BPS3 | Hair transplant equipment set | Microscope and other instruments. | 2 |
| BPS4 | Fractional co2 laser with | TECHNICAL SPECIFICATIONS for CO2 LASER SYSTEM  LASER TYPE - Ultra Pulsed CO2 Laser with Micromanipulator / Coupler, Operating Microscope, CCD Camera / Coupler, Beam Splitter, 22”Flat Screen LCD Monitor, Electrically operated 180 Degree Inclinable, Hight Adjustable - Patient Treatment Chair and Hydraulic / Mechanical Lever operated - Doctor’s chair.  LASER CONFIGRATION -SEALED OFF CO2 GAS, DC EXCITED.  WAVE LENGTH -10600nm – 10.6 Micron.  MODE STRUCTURE-TRUE WG TEMoo MODE  POWER TO TISSUE -CONTINUOUS, PULSED, ULTRA PULSED 1 - 40W  PULSE DURATION -SUPER  PULSE:400-800ms ULTRA PULSE < 300ms  PEAK POWER - 300-1200W  MICROPROCESSOR - SELF DIAGNOSTIC & SELF CALIBERATION  PURGE AIR - AUTO PURGE AIR.  HAND PIECES - 50mm & 100mm  SPOT SIZE - 0.1mm - 0.2mm at Focus.  DISPLAY - LCD Touch Screen  MEMORY - USER PROGRAMMABLE MEMORY SETTINGS  BEAM DELIVERY - ARTICULATED ARM 7 MIRRORS - TITANIUM.  AIMING BEAM - 635-670nm, 5mw,Red Diode - ADJUSTABLE BRIGHTNESS,  COOLING SYSTEM - CLOSED CYCLE PURIFIED WATER TO AIR  POWER INPUT - 3-6A, 220V AC / 50Hz.  WEIGHT - Approx 60KGs. | 2 |
| BPS5 | Binoccular loop | 4.5 x.magnification | 6 |
| BPS6 | Multipara monitor | a) should provide non invasive monitoring of PO2, HR & Blood pressure, displayed on the LCD. Modular Battery back up, ECG+ 2% Accuracy, 3 or 5 leads, Resp- 4 to 200 BPM ,  Standard temperature, SPO2 – waveform  b) Should have following essential features.   * Easy to Use * 3 or 5 lead ECG * Lightweight <5lbs * 5 hours battery life * Adult / pediatric probes * Up to four waveforms * SureTemp 4 (second oral temperature) * 8” active matrix color Display * Tabular trending * Thermal recorder   Intutive Menu’s | 14 |
| BPS7 | Rapid infusion pump | Rapid Intravenous Infusion Pump   1. The unit should be small in size, battery operated . 2. The unit should be capable of providing rapid and controlled administration of crystalloid and colloid IV fluids, whole blood, and PRBCs   3.The unit should have valve to prevent Retrograde flow .  4.The unit sould have adjustable flowe rates upto 6lts/hrs and ability to give automated bolous of 250cc in less than 3 minutes minutes  5.The Unit should have alarm when presence of air in line, down stream occulsion and low Battery.  6. The unit should be capable of administring fluid while patient is on the move in the hospital or in transportation  7.The unit should be US FDA approved  8. The unit should come with 10 pcs each of IV fluid cartridge and 10 pcs of Blood Cartridge. |  |
| BPS8 | Dermabrasion set | Korean micromotor with detachable hand piece and diamond burr with cylindrical burrof variable sizes. | 2 |
| BPS9 | Dermatome | The Dermatome should be able to cut grafts of various widths. Should be provided with variable Guards to adjust the width of the Graft to 2”, 3” or 4”. Should not need any carrier to lift the Graft from the donor site. The cut graft should automatically fold into the pocket of the Dermatome. The graft should be severed by simply lifting of the Dermatome up & away from the donor site without a carrier.  The thickness of the graft should be adjusted with a pointer on the scale. The thickness of the graft should be adjustable to thousandths of an inch.  The Dermatome unit should be supplied complete with motor unit in the handle, set of guard , caliberation guide, power plug cord, screwdriver & should be supplied complete with a carrying case for proper maintenance and 20 blades. | 2 |
| BPS10 | Cranio-facial surgery set | |  |  |  | | --- | --- | --- | | it should be a titanium implant system. |  |  | | 2 |
| BPS11 | Device to trap Nematocera | * it should be attract & trap by simulating human fray. * It should emit UV light at a specific wavelength to for attraction. * It should be non toxic & safe for human. * Should be quoted along with consumable. | 2 |
| BPS12 | System for decontamination of surfaces by using superheated atomized steam | System for decontamination of surfaces by using superheated atomized steam   * Should produce superheated, saturated atomized steam * The steam should delivered at 180 degrees Celsius to achieve proper disinfection in short time * The steam should be produced in an expansion chamber to achieve high temperature * It should have an automatic refill system of transferring water from the tank into the boiler for unlimited operation time * The pressure in the boiler should be more than 4 bars * There should be a system for monitoring the boiler pressure * Should have Continuous steam quantity adjustment * The generated steam should be delivered through a nozzle * The delivery nozzle should have a system for further heating the steam to bring it to the desired temperature of 180 degrees * The steam should quickly evaporate from the treated surfaces without leaving any residual moisture * The system should use a cleaning agent to ensure proper sanitization * The mixture of steam and cleaning agent should be safe, so that it can be released in the presence of personnel * Should have the provision for attaching the sanitizer bottles in the nozzle * To eliminate the risk of contamination by the operator, there should not be any need for the operator to come in contact with the surfaces to be sanitized. * Should be safe enough for application on surfaces and fabrics * Power consumption should not exceed 2500 Watt * CE Marked   Consumable for the above System   * The Cleaning agent should work with over heated dry saturated steam to provide proper sanitization * It should get attached to the nozzle of the above system | 1 |
| BPS13 | On site microbial protection sheet generating & dispensing system: | * Should be fully automated * Should have an option to dispense variable quantities of wipes * Should give error alarms * Should be quoted along with all required consumables like rolls & refill. | 2 |
| BPS14 | System for cardiac message and ventilation | SYSTEM FOR CARDIAC MASSAGE & VENTILATION  • It should be easy to use & easy to handle.  • Should work without any source of energy like electricity, compressed air & gas.  • Self centering & should be adaptable to each patient’s individual chest size.  • Should alternate automatically between cardiac massage & ventilation in a rhythm of 30:2.  • Depending on the patient’s chest size the depth of pressure should adjust itself between 40 & 50 mm.  • Ventilation volume should automatically adjust between 500 ml & 600 ml.  • There should be an integrated access pressure valve to avoid a patients potential bloating.   * • Should be quoted along with the consumables. |  |
| BPS15 | Automatic hand sanitizer dispenser | Automatic optically triggered hand sanitizer, should give 1 ml solution each time, should  have anti theft installation. Should run on readily available batteries. Should have low  power consumption- should give minimum 40,000 cycles for each battery pack. |  |
| BPS16 | Environmental decontamination system | * Should be designed to kill Bacteria, viruses and fungus in the indoor air. * Should eliminate other environmental pollutants like particulate matter and VOC * Should have different modules for air filtration, air decontamination, fumigation * Should be suitable for areas of > 40 square meter * Air Filtration Module   + Should have multi-stage mechanical particle arrestors for removing particles with a very high efficiency.   + Should have nanometer photocalytic filter for continuously decomposing VOCs.   + Should have dual stage ACF for VOC management   + It should have maintenance of air purification by 2 Curved UV Lamps using Ultra Violet Germicidal Irradiation technique for maximum efficacy   + The air flow should be adjustable between 430cubic meter/ hr to 200 cubic meter per hour.   + Should be a Floor mounted mobile system   + Should be made of non conducting, shock proof material * Air Decontamination Module   + Should use flash thermal energy for decontamination of air   + should not use any toxic chemical like ozone or disinfectants for air disinfection and decontamination   + should be fan free & chemical free   + Should be made of non conducting, shock proof material * Controller System   + All the modules should be turned on/ off remotely using the controller * The system should be manufactured by high quality manufacturers. Must be ISO 9001-2008, ISO 14001 – 2004, ISO 13485 - 2003, WHO – GMP/ GPP certified company * The system should be CE Certified as Class I Medical Device |  |
| BPS17 | Skin graft mesher | Mesher should have a full range of meshing ratios, with adjustable meshing drum allowing meshing ratios from 1:1 to 4:1  Should be able to use any sterile smooth plastic plate of 0.5mm thickness as Skin graft carrier.  Variable Mesher should be able to operate both as powered or manual mesher.  Should be simple & ergonomic design.  Should be provided with   * 1. sterilizing container   2. Skin Graft Carrier   3. power pack including motor gear, Batteries   4. Ratchet. | 2 |
| BPS18 | Pneumatic tourniquet | The Tourniquet should be an automatic one With instant increase in pressure , auto regulator to control pressure in the cuff, automatic time setting with auto alarm.  Should have battery back-up system automatically engaged if AC current is interrupted . Should have computerized memory.  Should have microprocessor monitors and gives alarm both by audible & visual indicators.  Should have alarm for Low pressure, Low battery, Leaks, Kinks elapsed time and start up checks.  Should be able to operate either as single or double cuff (IVRA) function.  Should be provided with autoclavable tourniquet cuffs with silicone bladder single and double for baby, child & adult for arm & thigh.  Single cuff set of 5 - Set of 3  Double cuffs set of 5 - Set of 2 | 2 |
| BPS19 | Microprocessor controlled power driver system | Microprocessor controlled power Driver system should provide complete functions of bone harvesting drilling & fixation of small bone & helps in osteosynthesis.  Should have computerised control with touch screen facility having options of digital display of speed & to preselect acceleration & beraking of handpiece speed,  Should be provided with cable & footswitch & should be provided with complete set of following accessories.  Universal Drill Multiple handpieces 1:5 speed upto 30,000 rpm  Micro Saggital Saw with blades with speed of 20000 cycles /min  Micro Oscillating saw with blades with speed upto 15000 rpm  Micro reciprocating saw with blades with speed of 20000 cycle/min  Wire driver with max peed 2500 RPM  Cutting burrs & twist drill | 2 |
| BPS20 | Basic plastic instrument set | The instruments should be of improved steel with high precision quality with CE, TUV or ISO 9002 certification.  The fine cutting instruments should be of Tungsten carbide –Supercut variety.  The needle holders should be with Tungsten Carbide inserts for extra durability | 2 set |
| Converse skin hook small | 16 |
| Converse Skin hook large | 16 |
| Mathieu retractor ( Cat's Paw) | 16 |
| Hajek's Retractor) | 4 |
| Langenbeck's retractor small | 8 |
| Langenbeck's retractor large | 8 |
| Weislander Retractor (self retaining ) | 4 |
| Dental Syringe | 8 |
| Stainless Steel Scale 6" | 4 |
| Stainless Steel Scale 12" | 2 |
| Castroviejo Calipers | 4 |
| Bristow Bone lever | 4 |
| Smith Peterson Osteotome 10mm | 4 |
| Smith Peterson Osteotome 20mm | 4 |
| Smith Peterson Osteotome 25mm | 4 |
| Tessier Osteotome set of 8 | 2 |
| Gouge 7" 2mm | 4 |
| Gouge 7" 4mm | 4 |
| French Chisel 11mm | 8 |
| Halsted Mosquito artery forceps 5 3/4" Cvd. | 48 |
| Halsted Mosquito artery forceps 5 3/4" St. | 48 |
| Kocher Forceps | 24 |
| Kelly Artery forceps st. | 48 |
| Kelly Artery forceps cvd. | 48 |
| Dandy Tissue Forceps | 48 |
| Debakay Tisue forceps st. non traumatic jaws 1.5mm jaws 8" | 8 |
| Mcindoe dissecting forceps 6" nontoothed serrated jaws | 12 |
| Potts Smith Dressing forceps 7" | 8 |
| Adson Tissue forceps 4 3/4" toothed delicate | 8 |
| Adson Tissue forceps serrated jaws 4 3/4" | 8 |
| Gillies Dissecting forceps 6" toothed | 8 |
| Allis Tissue Forceps 6" 4x5 teeth | 8 |
| Elevator double ended, angled right and left | 8 |
| Elevator double ended, spoon shaped | 8 |
| Molt Dissector | 4 |
| Howarth Elevator | 4 |
| Scissor angle short blades 18mm with serrated blades | 4 |
| Kilner scissors straight with fine points | 8 |
| Kilner Scissors curved on flat 12cm | 8 |
| Mcindoe Scissors cvd.on flat with round points 7" | 8 |
| Iris Scissors straight sharp Tc supercut | 12 |
| Iris scissors cvd. Sharp TC supercut | 8 |
| Surgical scissors 5" st. sharp points TC | 12 |
| Stevens Tenotomy scissors cvd. 12cm TC | 4 |
| Brown dissecting Scissors st. 5 3/4" | 8 |
| Mayo dissecting supercut scissors 17cm cvd. | 8 |
| Mayo dissecting supercut scissors 17cm St. | 8 |
| Fomon supercut Scissors cvd. 5" | 4 |
| Fomon supercut Scissors cvd. 5" Dorsal angle 15cm | 2 |
| Metzenbaum Scissors cvd. 18mm Tc Supercut | 4 |
| Gorney scissors cvd. 9" | 4 |
| Mayo Hegar Needle Holder 6 1/4" | 8 |
| Derf Needle Holder 4 3/4" | 8 |
| Maltz Rasp Tc. | 4 |
| Mcindoe Rasp TC | 4 |
| Mallet 8 oz | 2 |
| Asch forceps | 2 |
| Ruskin Bone cutting forceps | 4 |
| Luc's Forceps | 4 |
| Padgett St. bone cutting forceps | 4 |
| Padgett angled bone cutting forceps | 4 |
| Bunnel Bone drill small | 2 |
| Knuckle Bender Large | 40 |
| Knuckle Bender Medium | 40 |
| Knuckle Bender Small | 40 |
| Mcindoes Raspatory | 8 |
| Bard Parker knife Handle no.3 | 8 |
| Bard Parker knife Handle no.4 | 4 |
| Bard Parker long knife handle no.3 | 4 |
| Barron Knife handle octagonal | 8 |
| Backhaus Towel clips 3 1/2" | 24 |
| Sponge Holding forceps 9 1/2" | 16 |
| Frazier suction tube 8 French | 8 |
| Frazier suction tube 10 French | 8 |
| Magilli's suction tube size 2 | 8 |
| Meade wire cutter pliers | 4 |
| Dressing Trolley | 12 |
| BPS21 | Endoscopic instruments for facelift |  | 1 |
| Micro Jaw curved metzenbaum scissor with cautery |  |
| Micro Jaw curved dissecting forceps with cautery |  |
| Micro Jaw Curved Hook Scissor wit cautery |  |
| Curved ‘L’ Nerve/ Dissection Hook knife with suction cautery |  |
| Curved spatula with suction and cautery |  |
| Frazier suction tube malleable |  |
| Endoscopic suture carrier malleable shaft |  |
| Replacement rotable insulated handle for dissection |  |
| Replacement Rotatable locking handle for grasping with cautery |  |
| Endoscopic perioteal elevator 6mm oval malleable shaft |  |
| Endoscopic Perosteal elevator Oval , 10mm malleable shaft |  |
| 5.0mm Needle holder |  |
| Micro Jaw, Straight metzenbaum Scissors with Cautery |  |
| Micro Jaw, straight Maryland Dissecting forceps |  |
| Replacement Insulated shaft for Inserts |  |
| Monopolar Electrocautery cord |  |
| 4mm, 30 deg, high Magnification Endoscopic with wide angle for Brow lift & facial procedure |  |
| Visualization/Irrigation sheath for use with Endoscope |  |
| Dissecting/Retracttion Sheath for use with Irrigation sheath |  |
| Xenon light source |  |
| Light cable for |  |
| Monitor Visual |  |
| Video Recorder & Printer |  |
| Cart |  |
| High Resolution Video Camera |  |
| BPS22 | Hair restoration ssystem | 1. Should prevent the need of making separate holes. 2. Should ensure minimum bleeding. 3. Should ensure totally natural looking hair transplants. 4. Should not cause any damage to the hair bearing structure of the skin 5. Should provide for faster healing time 6. Should be provided with 4 sizes of the needles for flexibility of use.\ 7. Should maximise transplanted hair growth even after transplanting large number of grafts. | 1 |
| BPS23 | Bed weighing machine | Bed Scale complete with trolley which incorporates space saving storage for sendors.  Easy handling- sensors ramps are placed in front for hospital bed no. additional accessories required sensorramps are adjustable to any given wheel size capacity: 300 kgs  Weighing range 2-300Kg  Sensitivity- 100 gms | 1 |
| BPS24 | High capacity vacuum suction system | Suction machine manufactured in ABS,  Aspirator – which has maximum suction of –090 bar (730mm/Hg). It operates on 230V –50/60HZ  Lubrication & maintenance free pump .  Machine has 4 artistic castors, 2 of which with brakes, to allow mobility.  2 or 4 liter jar autoclavable makrolon with 200/400ml  Each jar has double security valve with anti bacterial filter . The machine can operated by foot paddle also.  Size:- 55 x 45 h 65cm  Weight – 20 kg  Maximum suction – 0.90 bar (730mm /hg)  Flow 100 1/min  Norms CEI 62-5 (IEC 601-1) 93/42/EEC | 1 |
| BPS25 | Electrophoresis system | Mini plus horizontal gel unit with removable casting tray and 2x1 mm thick , 16 sample combs and coloured loading strip. | 2 |

CASUALITY DEPARTMENT UPGRADATION

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | Name of equipment | SPECIFICATION | TOTAL |
| CUP1 | 1. Suction machine Electrically Operated | 1. Electrically Operated   Vacuum:- 700 + 10 mm hg:  Regulable, flutter  free vacuum control knob.  Volume: 35 ltrs/min (Jars capacity 3 ltrs.)  Sound: 50 dBA+ 3 almost whispers.  Bauge: Bourden type 10 cm dia. 0-760 mm Hg. Calibration.  Jars: Wide mounted 2 x 1.5 ltrs. Self sealing rubber bungs with overflow safety device.  Size: 49 cm x 36 cm x 74 cm. Spot welded, over backed cabinet.  Current: 230 V, 50 Hz, 3.5+ 5 Amps. | 10 |
| CUP2 | 1. Suction machine Foot Operated | 1. Foot Operated   Technical Specifications   * Pressure upto minimum 100 cm H2O * Capacity – 2 ltr * Tubing must be 1.5 meter   Provide Details about   1. Availability of after sales services- in MP/in India 2. Servicing within 48hr. of shutdown should be emphasized before purchasing to ensure the smooth functioning of the Unit. |  |
| CUP3 | Shadow less Lights | 1. Ceiling track model   Size : 45 cms   1. Double dome shadow less ceiling OT :    * Shadow less operating lamp LED double dome    * Ceiling LED operating light double lamphead should have more than 110 LED in major lamp head and more than 70 in satellite lamphead should offer excellent luminous efficiency light source and incredibly long life LED    * LED Operating light should have overlapping fields of light and multiple patterns    * Minimize shadow and redirect the light to the operating area    * Lamphead should be of modular design with five and three segment for optimized laminar flow compatability    * Lamphead should be plastic moulded and should be slick for easy manuoverbility    * Feather touch contreol should be on the lamphead to offer different level of light intensity.    * Feather touch contreol should be on the lamphead to offer different level of temperature    * Sterilize handle should be provided in the centre lamphead for positioning and focusing    * Major lamphead intensity 150000 lux and minor 90000 lux    * Life of LED more than 35000 hrs.   FEATURES :   * + Aerodynamic lamphead hammered out of cad   + Advanced filter technology   + Special diffuser   + Single halogen bulb 24 V 150 W with one backup bulb   + Feather touch digital control for various level of light intensity   + Unique sterilizable handle for focusing   + Low voltage supply unit   TECHNICAL SPECIFICATION   |  |  | | --- | --- | | Lamphead | 700 mm dia 1 bulb | | Light intensity | 130000 Lux | | Power requirement | 150 W | | Color temperature | 4250 K | | Average life for halogen bulb | 1000 working hrs |   SATELLITE LIGHT HEAD   |  |  | | --- | --- | | Power requirement | 80000 Lux | | Color temperature | 150 W | | Average life for halogen bulb | 2000 working hrs. | | 02 |
| CUP4 | Defibrillator with monitor | Specification for Defibrillator with Monitor   * The machine should have facility for ECG monitoring.   Defibrillation, external pacing & recorder.   * The defibrillator should be biphasic technology based having energy selection of 1-200 Jolules preferably based on rectilinear biphasic waveform. * It must be capable of monitoring ECG though ECG cables, Multi-function electrodes and paddles. * The monitor must be a 2-channel monitor with ECG as the first trace and an option of choosing EtCO2 and SpO2 as the second trace. * The machine should be able to defibrillate adult , paediatric patients. * The machine shoud have ECG waveform display on bright screen alongwith other vital numeric information. * The machine should compact , portable with built in rechargeable battery, weight of the total machine should not be more than 6 kg. * The machine should have inbuilt recorder for printing ECG trace & stored information. * The machine should have capability for providing internal defibrillation shocks. * The machine should be upgradable to vital sign parameter such as NIBP, Mainstream EtCO2, Masimo SET SpO2 &12 Lead ECG. * The machine should have user selectable alarm settings. * The machine should work on mains as well as rechargeable battery.  1. It should have PCMCIA Data card for patient data strorage. | 2 |
| CUP5 | Boyles apparatus   1. Circle absorber 2. Cylinders 3. Breathing systems 4. Bains circuit 5. Vaporizer   B.p. apparatus | \_ Stainless steel frame:  \_ 2 Flow meters each with extend rang.   1. For oxygen – 0.1 to 2 and 2.5 to 15 litres/mm 2. For nitrous oxide – 0.05 to 1 and 1.25 to 10 litres /mm   \_ Oxygen and nitrous oxide   * Magills * Jackson Rees * Fluotex (Halothane) * EMO ether vaporizer  1. Anesthesia Machine should a gas systems. Air / oxygen/ nitrous oxide with dual cascade flow meter for delivering flow 2. Anesthesia Machine should have mechanical hypoxide guard. 3. Basal flow of 50 ml should be there 4. System must be incorporated with each of O2 nitrous oxide pin index and pipeline input connections for O2 N2O air 5. Anesthesia Machine must be having integrated microprocess controlled anaesthesia venlilator, circle system and passive scavenging system. 6. Anesthesia ventilator should have EL display for displaying of inspired oxygen percentage tidal volume minute volume Airway pressure and graphical display 7. Below must be ascending type 8. Electronic beep should be standard 9. Both volume controlled mode with tidal volume compensation and pressure controlled mode should be available in the system 10. Compression losses within below and circle absorber should be compresated automatically in the system 11. System must have facility to context bain circuit and magill circuit bain shold have facility to mechanical ventilator 12. Machine parameter setting for the patients like tidal volume. Rate 1:E ratio airwaw pressure limit should be accessive directly through soft keys 13. Circle absorber should have mechanicals. Airway pressure limiting valve and bags to vent switch. 14. Battery backup of 30 minutes 15. Alarm for aponoe and patient circuit low airway pressure   Machine to be fixed with temperature pressure and low compensated halothane and isoflurane having key filling arrangements. | 01 |
| CUP6 | Ecg machine | LEAD SELECTION  Leads 12-lead selection  Selector positions : I, II, III, aVR, aVL, aVI, V, ImV  FREQUENCY RESPONSE  Frequency response : 0.05Hz to 100Hz (-3dB)  PATIENT SAFETY  Isolation Floating input isolation  Patient leakeage current : Less than 10 UA (220V/50Hz)  SENSITIVITY  Sensitivity :5mm/mV,10 mm/mV, 20 mm/mV push button selectable  Auxiliary input : 10 mm deflection for 30 mmV input  Scope Output : Output voltage 500m V at I m V input voltage gain I  Calibration : I m V push Button, effective at input amplifier  CMRR:Better Than 10 dB | 05 |
| CUP7 | ICU bed | 1. Hi Lo, Position with the help of central crank system on bearing and 4 cables 2. Folder Position Back & Knee with the Help of 2-Cranks on Bearing on Either side of the Central Crank. 3. Trendelenberg/Reverse Trendelenberg Position by Disconnecting two cables Located in the center of the Bed below. 4. Stainless steel U-Shape removable Bows 5. Removable head & Foot Boards to Facilitate Patient Access during Emergency (Boards are made of Marine Ply- Laminated) 6. Stainless steel I.V. Stand can be located along the length of the bed. 7. 4-Section steel weldmeshed mattress area which dissipates Heat & Moisture & ventilates Mattress 8. Urine Bag Holders Provided 9. Epoxy Baked Finish 10. 100mm Heavy duty Castors, 2 nos with Brakes 11. Length of Bed with Knob:- 225cms/90” 12. Length of Bed without Knob:-220cms/88” 13. Width of Bed with Railings:- 100cms/40” 14. Width of Bed without Railings:- 87.5cms/38.5” 15. Height of Frame Head End:- 87.5cms/35” 16. Height of Frame foot End:- 82.5cms/33” 17. Maximum Height with 100mm/4” Mattress from floor:- 81.25cms/32” 18. Minimum Height with 100mm/4” Mattress from floor:- 58.5cms/23”  * Nett Weight:- 95.00 Kgs | 10 |

DENTISTRY

|  |  |  |  |
| --- | --- | --- | --- |
| SR. No. | NAME OF EQUIPMENT | SPECIFICATION | TOTAL |
| DEN1 | Acryliser | Programmable preheating time & tempreture programmable curing time & tempreture, Analog control unit capacity – 6-8 flask Digital programmable. | 02 |
| DEN 2 | Alloy cutter | Compact alloy cutter with high speed grinding and dependable trouble free operation with vacuum suction  Safety glass for glare elimination and visual protection  20000 RPM | 02 |
| DEN3 | Trinocular Microscope with Microscopic digital camera | Optics System - Infinity Independent Plan Achromatic Optical System F=200mm   * Viewing Head - Seidentopf trinocular tube, Interpupillary distance 52~   75mm, 30°inclined, trinocular light is split 20/80 by a high quality prism, diopter adjustable.   * Eyepiece - WF10X/20mm, High eye-point up to 21mm * Nosepiece - quintuple, inward * Objectives - Plan Achromatic 4X/0.10, WD=12.31mm * Plan Achromatic 10X/0.25, WD=5.03mm * Plan Achromatic 40X/0.65(S), WD=0.72mm * Plan Achromatic 100X/1.25 (S, O), WD=0.17mm * Stage - Double Stage: 156×138mm platform, with X/Y travel of 76×54mm by low-positioned X/Y coaxial control knob, with scale mark and specimen-slide clip, enough space to hold 2 specimen-slide.and Rackless Mechanical Stage refocusing type: 179(205)×175mm platform, with X/Y travel of 75×50mm by low-positioned X/Y coaxial control knob, with scale mark and specimen-slide clip, enough space to hold 2 specimen-slide. * Condenser - Abbe condenser: NA=1.25, with iris diaphragm, with socket to accommodate PH-slide. Condenser center adjustable, color-coded diaphragm scale markings corresponded with the objectives of different powers. * Focusing - Coaxial coarse and fine focusing knob, height adjustable. * Electrical Parts -6V/20W Halogen Bulb: Input: 100~240V 0.5A, 47~63Hz, Output: 6V 3.4A, Fuse: 3.15A, 250V, FΦ5×20mm, Halogen Bulb Socket: G4 * C-Mount - 1X * Filter – Blue * Filter Holder - Filter Holder: (Attached to the Kohler) for more than one filter * Illumination - With field diaphragm (inside Kohler), 6v20w halogen bulb * Immerse Oil - 8ml * Allen Screw Driver - Φ2mm * Power Line - 1.8m | 02 |
| DEN4 | Biochemical Analyzer (Semi- Automatic) | * Test items: ≥250 * Flow cell: quartz flow cell 32uL * With both shipping and cuvette system * Lamp: Philip 6v 10 w * Measurement range: 0-5Abs * Resolution: 0.001 Abs (display). 0.0001 abs (calculation) * Temperature control: peltier 37º, 30ºC, 25ºc, 1ºC  * Repeatability: ≤1%   *Data communication*:- RS-232 serial port  *Power requirement*: -AC 220v ± 15%, 50-60Hz, 100W  *Output*: -Inner thermal printer   * External parallel printer   *Display:* -240x128 LCD  *Interface*:-RS-232 serial point  *Dimension*: -330mm x 355mm x126mm (L x W x H)  *Method*:-Kinetic and point linearity end point non linearity end point ,absorbency, sample bank, multi standards velocity calculation fixed time bichromatic etc initial rate .  *Wavelength range*:   * 7 wavelength optic system avoiding outer disturbance. * Wavelength range: 340nm-700nm * Filter wavelength: 340,380,405,492,510,546,578,630nm, +1 free position. * Wavelength precision: ±2nm.   *Quality control*:   * Quality control for all tests. * Statistic and print quality control parameters automatically with QC curves. * Program: add or delete test items easily according to the condition, modify the test parameters. * Display dynamic curves at real time, visually react the process, * Dormant automatically for the lamp to prolong its lifespan * Input 8 standard curves at most in testing with multi standard method.   Max reagent consumption 500uL per sample | 01 |
| DEN5 | Centrifuge | Revolutionary Microprocessor Lab Centrifuge  With brushless induction motor and frequency drive.  Digital display of speed & Time  Stepless speed regulator  0-60 Min digital count down meter.  Imbalance detector  Safety lid interlock to prevent cover opening during centrifugation.  Max Speed: 5250 rpm  Max RCF: 3600 g  Max Capacity: 400ml  Supplied with 24x1.5ml rotor head | 02 |
| DEN6 | Electronic Weighing balance | * + Full digital control method   + GLP/ GMP/ISO calibration   + Window direct   + Internal calibration   + Analog for graph display   + Specific gravity enabled   + Compact body with a spacious weighing chamber   + Doors open wide in three directions   + Level adjustment with ease   + Piece counting function   + Unit conversion   + Cap: 200gms   + Sens: 0.1 mg   Pensize (mm): 80 Dia | 01 |
| DEN7 | ELISA Reader | A.Wavelength Range - (340- 750nm)  B.Photometric Range - Absorbance: 0 to +4.0 OD  C.Resolution -0.001 OD  D.Stability - ±0.001 OD (15 minutes after start up)  E.Accuracy - Better than ±1.0% ±0.01 OD (405nm, 0.000 – 2.500 OD)  Better than ±2.0% ±0.01 OD (405nm, 2.500 – 3.000 OD)   * Repeatability - Better than ±0.5% ±0.005 OD (405nm, 0.000 – 2.500 OD)   Better than ±1.5.0% ±0.005 OD (405nm, 2.500 – 3.000 OD)   * Linearity - Better than ±1.0% (405nm, 0.000 – 2.500 OD)   Better than ±2.0% (405nm, 2.500 – 3.000 OD)   * Filter Capacity - 5 position [4 standard (405nm, 450nm, 492nm, 620nm) * Reading Speed - Single wavelength, fast mode, 96 well: ≤10 seconds   Dual wavelength, fast mode, 96 well: ≤15 seconds   * Plate Types - 96 well with flat, U or V shape bottom * Optical System - 8 measurement channels, 1 reference channel * Detector - Silicon Photodiodes * Light Source - Halogen (WI) Lamp * Display - Back-lit LCD 90(WI) x 68(H) mm: Resolution 320x240 pixels * Shaking - Linear, 4 speed selectable * Temperature Control - Ambient +4°C to +50°C * Temperature Accuracy l ±0.5°C * Printer Interface Connection - USB Interface * Printer Language - Support PCL – 5 or above * External storage - USB flash drive * Dimensions - 290(W) x 425(D) x 200(H) mm * Net Weight - 15Kg * Gross Weight - 20Kg * Power requirements - 110 – 220 V auto switching, 50/60Hz   Power Consumption - 50W (standby), 100W (operation) | 01 |
| DEN8 | Semi Automatic Rotary Microtome | * Semi automatic microtome with stepper motor driven specimen feed. * Vertical and horizontal cross roller bearing mechanism to ensure accurate reproducibility of section thickness. * Section thickness selection from 0.5 to 100um. * Section thickness range : 0.5um-100um increment   + 0.5um-5um in 0.5 um increment   + 5um -20um in 1um increment   + 20um-60um in 5um increment   + 60um- 100um in 10 um increment * Trimming thickness setting from 1um to 600 um with step rim function. * Programmable retraction of 5um to 100 um in 5um. * Retraction can be deactivated when not required * Two forward and backward coarse feed speed and electric coarse feed at 300um/s and 900um/s. * Sectioning modes: 2 continuous and rocking mode * Should have rocking mode action of sectioning to minimize the risk of developing repetitive motion disorders (RMD). * Horizontal feed of 28 mm via stepper motor and vertical stroke length of 70mm * Visual and acoustic remaining feed indication * Specimen orientation of 8 degree both horizontally and vertically * Section counter and section thickness totalizer * All controls on the instruments with external control unit * Disposable blade holder with lateral displacement   One hand operated universal cassette clamp and magnetized section waste tray. | 01 |
| DEN9 | Automatic Tissue processor with integrated Vacuum | * Microprocessor controlled Carousal type Tissue Processor with 9 freely selectable programs. * User programmable parameters like infiltration time delay time, vacuum on-off, agitation on-off and 80-100 cassettes capacity. * Programmable infiltration time from 5 min to 99 hours 59 mins in 1 increment. * Excess temperature cut of facility to avoid tissue loss. * Delay start-up function up to 9 days advance. * Drain time of 60 sec in each station to reduce carry over contamination. * Reagent containers of 1.8 liters with seals to minimize evaporation and expose the hazardous fumes. * Vacuum for all stations mandatory and Vacuum pump must in integrate in the instrument to minimize the contamination of reagent fumes in the lab environment. * Vertical agitation for each station as per need and 3 sec per cycle. * Maximum safety concept with automatic immersion of the tissue basket into the beaker in case of power failure. * Audible alarms, error messages and warning codes for maximum safety. * Should have Aluminum reagent vessels with handle to remove the vessels. * Thermostatically controlled wax bath and excess temperature cutout facility at 75 Deg Celsius. * Electronic locking facility to avoid inadvertent operation. * Facilities of manually lift the carousal and remove tissue in case of long power failures.   Activated Carbon Filter System with Advance safety concept and DIN EN ISO 9001 Certification | 01 |
| DEN10 | Binocular Microscope | Binocular head, inclined 30 deg. and 360 deg. rotating  Widefield eyepiece WF 10X / 20mm  Quadruple nosepiece, Anti fungal  Achromatic Super Contrast objectives ASC 4X/0.10  Achromatic Super Contrast objectives ASC 10X/0.25  Achromatic Super Contrast objectives ASC 40X-S/0.65  Achromatic Super Contrast objectives ASC 100X-s oil/1.25  Coaxial fine and coarse focusing adjustment in 2 micron  Built in low position coaxial mechanical stage  Vertical travel range 27mm  Tension adjustment to prevent stage drift  Large 140mm X 135mm mechanical stage with low-position coaxial  Control. Travel range 78 X 50mm.  Focusable 1.25 N.A. Abbe condenser Iris diaphragm with filter holder  LED illumination 3W with intensity control  Main supply 220V-240V, VDE plug | 02 |
| DEN11 | Spectrophotometer | Lamp Source Long Life Xenon Flash Lamp  Detector Device CCD  Wavelength Range 200-900nm  Measuring Range 0-4.0 OD  Wavelength Accuracy +/-1nm  Slit Width 4nm  Noise -0.005 OD (RMS)  Drift -0.005 OD  Photometric Accuracy +/-0.01 OD  Photometric Repeatability +/-0.005 OD  Stray light 0.5%T  DNA detection limit 20ng/ul  Minimum Sample Volume  with Ultramicro Cuvette 0.5ul  Start Up Melodies Selectable from 7 types and mute  Energy Save Mode Yes  Memory Storage Internal or SD card  Power Requirement - 110-200V, 50/60Hz | 01 |
| DEN12 | Articulator wide view | Individually adjustable,all the joint angles can be continuously set without having to replace any elements,centric lockingcatch, seprable upper & lower frame,optimized joint mechanics with continuously adjustable angles - protrusion(0-60 degree),retrusion 35 degree,bennett (0-30 degree), side shift 0-1.5mm,protrusion shift 0-4mmcompatible with split cast system with earpiece type spring facebow transfer complete assembly, one pair metallic and ten pair of plastic mounting plates | 10 |
| DEN13 | Articulator Model JP30  SEMI-ADJUSTABLE ARTICULATOR:- | Semi adjustable articulator for complete denture, crown & bridge work that should have all necessary accessories for working with ear face bow and also be used with the biometric value template system. The system should be intrinsic with all plane indicator accessories. Ear face bow should be easy to use with single lock for bite fork compatible for the articulator. Change in Bennet angle should be 0° to 30° with centric locking catch. Incisal guide should be changeable to customize or pre set angles. Retrusive movements should be up to 35° and up to 2mm distance which can be set. Protrusive shift of 0-5 mm should be possible. The articulator should have a support for a better view for working on the model, The shift setting should be 0-1 mm. Ready made mounting  should be available for the mounting of bite forke in Frankfort horizontal. Articulator should have a centriclocking system. Intra-oral tracers should be there for modifying the vertical height. | 10 |
| DEN14 | Autoclave | Working pressure : 1.26 kgf/cm2  (2.2 kgf/cm2 in case high speed sterilizer)  Steam working temperature :12/degree C in case of high speed sterilizer)  HYD tested at (Hydrostatic) : Jacket Twice the working pressure chamber – one & half time the working pressure  Operating voltage: 400/400 3 phase, AC supply, 50c/s  Sterilization period : 20to 55 minutes in case of high speed 5 to 7 minutes  Steam Exhaust : 5to 7 minutes in case high speed 1 minute  Volume 35 liter  Chamber diameter 300 mm  Chamber depth 500 mm  Electric load 3kw | 14 |
| DEN15 | Automatic shade Analyser | Equipment that relates to a computer readable medium comprising one or more programs for carrying out automatic method for determining a patient's tooth shade, compatible with vita shade guide | 02 |
| DEN16 | Bleaching unit | LED Bleaching unit dental teeth whitening system with .wave length 450-480nm with brightness 10000mw/square cm | 03 |
| DEN17 | Burn- out muffle furnace | \* Programmable, Pre set system  \* Microprocessor controlled temperature regulation  with digital LCD display  \* Heating upto 1100`C  \* Mold chamber dimensions  \* Height- 100 mm  \* Depth- 250-350  \* Width- 200-250mm  \* 230V/50Hz/2300 Watt | 02 |
| DEN18 | Casting machine | Centrifuge Motor cast | 01 |
| DEN19 | Ceramic furnace – fully programmable | Firing chamber should be lined with high-quality insulating material  Molybdenum disilicide heating elements  Color graphic touchscreen display  50 freely programmable sintering programs.  Safety features that should be present:-  Temperature sensor monitoring  Current monitoring  Protection against power failure.  Technical requirements:-  Dimensions: Firing unit: w x h x d 360 mm x 810 mm x 490 mm  Power unit: w x h x d 500 mm x 210 mm x 350 mm  Weight: Firing unit: 32.0 kg  Casing with power unit: 27.5 kg  Firing chamber - capacity: Diameter : 84.0 mm  Height: 90.0 mm  Firing chamber - temperature: max. 1600°C  Electrical requirements:-  Power supply: 200/230 Volt AC 50 Hz  110 Volt AC 50/60HZ  Power consumption: max. 1500 Watts  Classification: Safety class 1 | 01 |
| DEN20 | Ceramic unit | Ceramic furnace Unit- Multi- Programmable press & porcelain Furnace (can be used as both a press & ceramic furnace),With QTK muffel Technology,electronically controlled press,automatic double rang temperature calibration(ATK2)technology,Crack Detection System(CDS),Sufficient no. of programs (20 press & 150 firing)USB interface,removable furnace head,power fail save system, With Vacuum Pump, With Free Material, | 01 |
| DEN21 | Clinical Micromotor with St. & Contra Angle Hand piece | Motor of 35000RPM.  With control box & foot control | 18 |
| DEN22 | Centralized Compressor System. | Centralized Compressor System.  Compressed Air System for 11 Dental Chairs and Maximum 11 operators working simultaneously  Clinic Pressure Station P 6000  400 V, 50/60 Hz, 8.6 -10.7 kW, 22.5-25.5 A  With 2 Aggregates, incl. Control Unit, Air Intake Bacteria Filter, 500 litre pressure tank and refrigerant dryer, elec. cyclone separator, relieve valves, 100 % duty cycle, remote control  display possible. Designed for up to 30 workplaces for max 20 operators working  simultaneously. voltage 400 V (3~) frequency 50 / 60 Hz output at 5 bar with 2 aggregates  1133/1280 l/min Separate Control Display (5922-520-51) for each machine room required  Dimensions compressed-air station: H 180 x W 130 x D 100 cm  Dimensions receiver/dryer station: H 210 x W 90 x D 180 cm  Technical Specification:  Number of compressors set of 2 compressors  Treatment stations at 60% sim. 50 / 60, at 100%. 20 / 30  Voltage V 400/3N/PE/AC  Frequency Hz 50-60  Rated current A 22.5/ 25.5  Power consumption KW 8.6 – 10.7 kW Fuse A 40  Characteristic C/D according to EN 60898  Electrical connection Ø mm² 6  The diameter of the power cable must take into consideration the voltage, length of cabling and  the local situation.  RPM min 1500  Interference according to EN 55014-1: 2003-09  Jamming resistance according to EN 55014-2: 2002-08  Protection type IP 20  Protection class 1  Sound levels dB(A) 91 without Silencing Cabinet  Duty cycle %ED 100  Net weight: kg 535 without Silencig Cabinet  Start-up pressure bar 6 / 6.5 / 7  Switch-off pressure bar 7 / 7.5 / 8  \*Adjustable using a key-operated switch  Safety valve bar 10  Tank volume l 500  Performance at 5 bar l/min 1133 / 1280  Temperature range in operation +10 to +40 °C  (ideal +25 °C, with regard to life-cycle of compressed air station and build-up of condensation)  Storage and Transport -10 to +60 °C  Relative humidity in operation max. 70%  Relative humidity storage and transport max. 95% (without condensation)  Compressed air outlet connection G1" Internal threading  Central air suction connection DN 70  Condensate connection DN 50  Condensation volume  150-210cm³ per condensate drain cycle, depending on temperature and relative humidity  Required room ventilation m³/min 30  Dimensions P 6000 (H x W x D)  Compressed air module cm 180 x 130 x 100  With Silencing Cabinet cm 210 x 140 x 125  Tank module cm 210 x 90 x 180  Required distance between the tank and the compressed air module ca. 30cm  Total required space (Including access) cm 210 x 400 x 300  Supplier has to connect the compressor to Dental Chairs. Turn key basis. | 07 |
| DEN23 | Cone Beam Equipment | The cone beam CT should be of the flat panel type sensor system.  The CBCT should have movements which enable the exact location of the image volume and thus enables the adjustment of the volume size.  Should have a pulsed exposure, which is accurately synchronized to the image capturing, enables short and effective expourse time, with tube current modulation which reduces the patient.  Dosage and improves the image quality should be provide in the system.  Study volume size and target area should be selectable on the control panel to meet, diagnostic needs without exess radiation outside the area of interest.  Advance large view volume stitching program should be provide which offers low dose, large volume imaging through the selection and targeting of up to 3 horizontal volume and two vertical volumes. Once captures the targeted volumes are stitched together by the software.  The unit should be of the all in one type, meaning, a basic OPG, investigation, chephalograms, and also the 3D images can be taken on the same machine without any structural modification and should be easily selectable feature on the system.  KV and mA should be automatically selectable according to the patient anatomy should be present.  Programs to match the diagnostic task, which will effectively minimize the radiation dose, should be provide.  There should be a facility to choose the, high resolution mode, normal resolution mode and the low dose mode depending on the applications for various needs.  The software should be dicom compatible which is compatible which runs on windows. Mac etc and should embrace all modern IT standards.  3D cross sectional module should be provided.  TMJ module should be provided.  Implant planning module should be provided, or any third party software can be easily integrated to the system, with out compromising on the workability, performance etc should be possible in the system should be provided.  There should be a facility to make medical models for true visualization which also assist in preoperative planning for demanding operations etc should be available.  The above also helps in dental education perfect tool for communication between different treatment stakeholders.  Shorter treatment times. Increased patient safety and improved result for demanding operations, should be available with the machine.  Excellent for training and education of students and pg’s in a dental school set up.  Different volume sizes should be mentioned and the options available with the same.  The 3D reconstruction software should have high contrast object compensation, and improved artefect removal should be provided.  Minimum computer requirements: windows Xp, windows 2003 server or windows Vista, 3GHz processor. 3GB RAM, 2x500 GB hard disk (RAID 1 mirroring), CD R/W and /or DVD R/W, a back up device,  5 KV servo stabilizer should be provide, 15 minutes UPS back up should be provided, for the main work station.  3S Sensor and software details can be attached in a separate sheet so as to understand the specifics in details should be compulsorily provided. | 01 |
| DEN24 | Dental chair  Electrically operated dental chair mount unit | 1. Electrically Operated micro processor based multi programmable Dental Chair.  2. The Chair should have Erasable Programs with Microprocessor controlled, where Doctor can set his own programs. The Program switch should be fitted  to the instrument Tray. Program 0 and Gargling. 1 & 2 erasable Program  3. Body converging Movement  Back rest and body should moves together, so that it will not strain the back of the patient. .When it is completely flat, surgeon should get the head down position,  4. The Right side Arm of the Chair has lateral rotation for easy access of the Patient.  Chair Mount Unit fitted with:  a) LED Light with 3 intensity with 3 axis movement, 40,000 to 45,000 Lux ,  Maximum power consumption should be 4 to 6 watts.   * On/off by sensor switch non-touch * 3 step Intensity control by non-touch sensor   b)Auto water connection for Spittoon and Tumbler. Total basin cover should be single piece high quality porcelain with perfect smooth spittoon   1. STAINLESS STEEL INSTRUMENT TRAY for keeping instruments. 2. LED X-RAY VIEWER 3. Monitor Mounting Arm with the integrated wiring   f) HIGH & LOW VACCUUM MOTORISED SUCTION : Noise free, which consists of High Vacuum and Low vacuum with flow control valve with Auto Start. The Fluid collection container has auto drain system and also auto flush system. Amalgam collection filter.  Modular (Delivery System over patient) fitted with:   * 1. AIROTOR CONTROL & High speed Airotor Hand piece   i) Airpolisher compatible to Airotor coupling  with 500 gms powder of lemon flavour  B. Micromotor  Micromotor Brushless Speed range 2000-40,000 RPM.with digital display of speed Should be Supplied with:  i)Contrangle Handpiece –Autoclavable speed 40,000 RPM 1 No  ii)Straight Handpiece –Autoclavable speed 40,000 RPM 1 No  C. 3 Way Syringe for Air , Water & Spray 2 Nos  one for Doctor and one for Assistant  D. Piezotronic Scaler 1 No  Piezotronic Scaler 28 to 32 Khz frequency. Autoclavable Handpiece total control is micro processed based control unit. Handpieces most sleek. The scaler is supplied with 3 tips be any heat  ZERO BACK ACHE STOOL :Should be most latest Surgical Stool having raising and lowering by pneumatic piston with chromium plated legs. Back rest should move forward and backward along with the body by pneumatic piston and it should give support all the time. The seat should have a piston to move with the body when a Surgeon leans forward. | 31 |
| DEN25 | Dental chair | Pediatric dental chair •Body Contoured electrically operated zero programmable Chair (Multi programmable) •Sensor Operating Light with Two Intensity. •Chair Porcelain Spittoon •Vacuum Suction : High & Low (Motorized) •Chair Mount Unit Modular Delivery System - Hanging Cords. •Airotor - Two points •Choice of Hand piece : Titanium cellular Optic Fiberoptic, Ultrapush. Super Torque, Miniature & Standard •Micro Motor : Mighty 35000 rpm/ Supreme micro motor with 35000 rpm •Scaler : Piezotronic Scaler with 3 Scaling tips •Light Cure Regular/LED Light •Three Way Syringes - two nos. •X-Ray viewer  •Multi Functional foot control | 06 |
| DEN26 | Dewaxing unit | DEWAXING UNIT:-  The machine should have a programmable microprocessor based from 0 to 98 hrs to set programme for start up.  The machine should have integrated 6 showers for dewaxing. The body should be made for complete stainless  steel for long lasting performance. The dewaxing unit should also be useful as an acrylizer. | 02 |
| DEN27 | Digi SLR | SLR CAMERA :-  Digital SLR CAMERA for intra oral use -Digital SLR Set W/Body Cap, LCD Monitor  Cover, Neck Strap, EN-EL3a Rechargeable Battery, MH-18a Quick Charger W/Power  Wire, USB Cable, Video Cable, Software CD ROM, Rechargeable Battery ,18-70 MM  F3.5-4.5 G AFS DX IF –ED Zoom Lens ,Scandisk 1GB Compact Flash (CF) Memory  Card, additional macro-lens and filter, Auto Zoom Flash compatible with camera, Ring  Flash Compatible with SLR Camera, Light- Kit and Backdrops for the studio | 05 |
| DEN28 | Diode Laser Unit | Wavelength 810/940/980 nm  power - 0 to 7 Watts | 02 |
| DEN29 | Dry model trimmer | RPM 2800 1 HP with 2 ball bearing & diamond disk | 02 |
| DEN30 | Electro Cautery | Output: monopolar (frequency 500+25 Khz) cut control full scale (pure) 375+10W. 500 O load. Cut control full scale (Blende) 250+10W. 500 O Load (Continues bleding through hemostasis control) COAG Control 125+15W Bipolar generator (frequency 650+25 Khz) out put lavel 70+5W. 125 O load  Power 230V+5% 50Hz  Size 480x290x180mm  Weight 15 kg.  Applications: for all type of Major  Surgery includes under water cutting T.U.R. and for bipolar micro Co-angulation | 05 |
| DEN31 | Endodontic instrument removal system | System used to retrieve the separated instruments From root canals full set of instrument for removing crown, broken / separated instruments | 03 |
| DEN32 | Endodontic vacuum irrigation system | system   to irrigate root canal in which vacuum pressure pulls micro particles out of the root canal system | 07 |
| DEN33 | Endodontic microsurgery kit |  | 02 |
| DEN34 | Endodontic operating microscope | zoom optical system. Excellent depth of field.Interpupillary distance from 50mm to 75mm both eyepiece tube with diopter adjustment (+5 diopters)  * adjustable Inclination to Vertical * Eye Piece: 10 x or 12.5 x paired wide field. * Magnification: 5 x - 40 x * Working Distance: F = 220 mm (can be supplied with supplimantry extra lences for 250, 300mm) * Focusing: Motorized with foot contro. * Light Source: 24V, 250W twin reflector lamp high intensity / LED sensor. * Illumination: Coaxial through the lens fiber optic cable. illumination control continuous adjustment. * Arm: Counter balanced pantographic arm with 320 degree Rotation. * Stand: Mobile floor stand on five castor wheels for easy handling and stability/wall mount /ceiling mount * Attached camera and video decoder  display panel. With Various filter | 01 |
| DEN35 | Endomotor | Endomotor with handpiece  With rotary and reciprocating motion, torque control, multi programmable capability, auto reverse feature. | 03 |
| DEN36 | HANDPIECE CLEANER | * Safe for anybody to use * Automatically purges excess solution from handpieces * Automatically removes solution vapour from the chamber * Economical, efficient and time saving * Extends the life of handpieces * Compact size and easily installed * Professional handpiece maintenance and lubrication system * Maintains all handpiece brands   A fail safe maintenance solution for all dental handpieces | 02 |
| DEN37 | Hydraulic bench press | ×Working pressure-200 atm  ×Test pressure-400 atm  × With pressure relief valve | 04 |
| DEN38 | I.O.P.A. X- Ray machine Compatible to RVG with following features on wheel / wall mounted | 70 kV / 7mA - Ray tube, with International safety standards, soft positioning arms for accurate tube positions great lightness and flexibility in the movements head tube and cone are insernally lead coated to avoid scattered radiation high voltage generator with high efficiency in the emission of the x-rays digital control equipped with an easy ready display indicating with precision the selected time exclusive angular indicating system for head positioning in various radiographic techniques high efficiency and greater sharpness of the radiography, shorter exposure time and greater safety double pantographic arm with vertical and horizontal smooth movements | 07 |
| DEN39 | Induction casting machine | Electrical single phase 230v 50/60 Hz- 4kw  Crucible Capacity 80gc .cm. – 80 g. precious alloys – 80 g titanium alloys  Flasks from 30 to 80 mm – 55 mm h  Water cooling – built in closed circuit system  Optical infrared pyrometer – automatic measurment and programmable stablization 2% 3%  Dimension – base mm 720x670 H mm 1000  Weight – kg 140 | 01 |
| DEN40 | Iontophoresis unit | For treating dentinal hypersensitivity | 01 |
| DEN41 | Laryngoscope with all size blade | Laryngoscope with curved & straight blade size 1,2,3,4 | 02 |
| DEN42 | Linear Staining System | *Technical Data*  Nominal supply voltage  100- 240 VAC ± 10%  Nominal frequency 50/60 Hz  Maximum power draws 150VA  Working temperature range +10°C to + 35°C  Relative air humidity Maximum 80%, non condensing  *Dimensions and weights*:  Basic instruments (W x H x O) 1435 x 444 x 436mm | 01 |
| DEN43 | Milling Machine | It should contain  4-axis milling machine, dental prosthetics  Mills wax and Zirconia for precision copings and crowns  Compatible with industry standard software  Allows materials to be tilted + 20 degrees  Produces high-quality shapes with no undercuts  Three types of clamps are included , one for disks and two for blocks, making it easy to securely hold a wide variety of material  Clear dust colletion capsule captures all milling materials for a clean environment free of dust particles  Tool sensor automates machine and tool setup, saving valuable time  Desktop device compact enough for small office spaces  Affordably priced dental milling system. | 01 |
| DEN44 | Model Trimmer with diamond disk, high speed | MODEL TRIMMER WITH DIAMOND DISC  Should have approximately HP 1 and 2800 RPM  Should be ergonomically designed, heavy duty, low noise, single speed  Should have diamond wheel size 10”  Should have automatic water valve with water spray attachment and splash shield  Should have orthodontic work table complete  Should have foot switch  Should have provision of both dry/ wet trimming  Source: Indigenous / Imported. | 05 |
| DEN45 | Monocular microscope with eye-piece pointer | * Monocular tube inclined at 45, rotable in 360 and locked permanently. * Optics: - 10x, 40x and 100x oil immersion achromatic objectives of superb optical quality and locked in 10x Wf eyepiece (18mm). * Co axial coarse and fine focusing mechanism with tension control. * Illumination: - Well balanced light for low and high power objectives through 6 V and 20 W halogen bulb and electronic regulator for continues intensity control. * Quadruple revolving nosepiece. * Mechanical stage: - Stage size 125mm x 145mm with traverse area of 50mm x 56mm right hand low drive co axial mechanical stage. * Sub stage condenser NA 1.25 with iris diaphragm and swing out filter holder moving up and down through rack and pinion. * Attachable mirror reflector in case electricity is not available. * Monocular Tube, inclined at 45, rotatable in 360 & locked in permanently | 01 |
| DEN46 | Halogen OT light ( Single dome and double dome) | * Single dome ceiling mounted halogen light * Epoxy coated fibre / metallic single dome size 525mm * Dichroic coated glass reflector * Shadow less cold & white high-intensity light with colour corrective filter glass to minimize heat. * Spring balance control system * Halogen lamp 24V, 150W with option of secondary lamp with auto switch on to reserve bulb within 5 seconds in case main lamp fails * Lux output 1,10,000 10% * Field size 200-250 mm diameter * Sterilizeable focusing adjustable detachable handle made of brass * 260 & 31 arm movement * Dome tilting angular 45, lateral 60 * Power supply source auto cut transformer / CVT with intensity control * Input power supply voltage 170V-260V   Quote for double dome model also, as above | 01 |
| DEN47 | O.T. Table | Side end control hydraulic OT table   * Side end control double cylinder heavy duty hydraulically operated table * Five sections stainless steel top * Hydraulic lift locking * Jerk free smooth operation * Table base covered with SS sheet * Detabhable head & leg section * Easily movable & floor locking system with oil refilling port * Stainless steel side railing * Foot pedal made of stainless steel * Accessories clamp made of brass * Accessories : Arm rest 2 nos., 50mm thick sponge mattress   Local service support with engineer based at Indore | 02 |
| DEN48 | Palatel Trimmer with suction | 2800 RPM high torque 304 grade S.S. Dull finish work surface, Dust collection part in back with adapter hose, 1 fast cutting trimmer | 02 |
| DEN49 | Periodontal surgery instrument set | A-KIRKLAND PERIODONTAL KNIFE 15/16 ,no.  B-ORBANS PERIODONTAL KNIFE 1/2 no  C-BUCKS PERIODONTAL KNIFE 3/4 , 5/6 no  D.KRANE KOPLAN POCKET MARKER  F-TISSUE NIPPER  G-CUMINE SCALER  H-MALLET  I-OSCHENBAIN CHISE  J- SCHLUGER BONE FILE 9/10  K- SUGERMAN FILE 1S/2S, 3S/4S | 01 |
| DEN50 | Phantom head unit | Phantom table fitted halogen operating light, phantom head body type, neck joint with all the movement, T.M.J. movement, modular with airotor, micromotor with contra angle hand piece, 3-way syringe, jaw with ivorine teeth, preferably with soft gingival, dental operators stool (not to use extracted or cadavers teeth) | 40 |
| DEN51 | Piezon Ultrasonic scaler | With surface, interdental and subgingival tips (with digital display) power selection modes. Turbo for fast removal of hard calculas & Tarter scaling.  Piezotronic Scaler 28 to 32 Khz frequency. Autoclavable Handpiece | 08 |
| DEN52 | Pindex system:- | Manual drilling synthetic care with accessories hand drill – 1 piece, set flexible socket former, tool for drill changing, socket wrench, pin introduction set,+ trimmer | 01 |
| DEN53 | Plaster dispenser | Should have a capacity of 20-30 kgs  Should be wall mounted  Should have a stainless steel body  Should have inside rubber container to prevent dispersion of dust in the environment  Plaster should be protected from humidity and other polluting elements  Should dispense plaster in dusty powder form  Digital electronic timer preferred. | 02 |
| DEN54 | RVG | RVG is a Digital imagin system, which allow quick or immediate viewing of image without using dental X-ray film, consist of an intraoral sensor or imaging plate, an x-ray system, computer hardware and software for image processing, and a hard-copy printer Operational Requirments RVG sensor and the computer system along with imaging software is required. X-ray generator is not to be quoted Technical Specification A. RVG sensor system   * Should be based on CMOS / APS * 10-30 lp /mm true image resolution * exclusive sensor with compelete software package including optical fiber technology. * Plastic pack design to allow easy periapical and bitewing radiograph * USB Cable * Available in three (Small, Medium & Large) size to help meet the unique imaging needs of practice and patients. * Thickness of the sensor should be 2-5mm. * Sensor life should be more than 350000 exposures. * Sensor active area should range from 450-1000 square mm for different sizes of sensor. * RVG / System software.   1. Should be licensed.  2. Should have facility for RVG well as intra oral camera.  3. Should have automatic acquistion and save facility.  4. Should have Sharpening, cleaning and improving feature.  5.Should have search facility by patient ID name or any other criteria.  6. Should be internet compatible.  7. Should be capable of generation reports.  8. Should be capable of avoiding accidental deletion.  B. Radiation protection accessories : lead apron, thyroid collar, gonadal sheath.  C. Computer Hardware:  1. Should be Intel Core 2 duo Pentium PC with 160 GB Hard disk, Min. 512 Ram. DVD writer, 17 Inches LCD / TFT Monitor.  2. Should have compatible color photo printer.  4. System Configuration Accessories, Spare and consumables  1. System as specified.  5. Environmental factors  1. The unit shall be capable of being stored continuously in ambient temperature of 0-50 deg C and relative humidity of 15-90%  2. The Unit shall be capable of operating continuously in a ambient temperature of 10-40 deg C and relative humidity of 15-90%.  6. Power Supply  1. Power input to be 220-240VAC, 50Hz fitted with Indian plug  2. Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.  7. Standards, Safety and Training  1. Should be FDA, CE, UL or BIS approved product  2. Manufacturer should have ISO certification for quality standards.  3. Electrical Safety conforms to standard for electrical safety IEC 60601-1 general requirements (OR EQUIVALENT BIS Standard)  8. Documentation  1. User / Technical / Maintenece manuals to be supplied in English.  2. Certificate of calibration and inspection.  3. List of important spare parts and accessories with their part number and costing.  4. Log Book with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and service engineer should be clearly spelt out. | 06 |
| DEN55 | Spindle grinder | 28000 RPM with vacuum suction | 01 |
| DEN56 | Surgical Micromotor fiber optic | having 200-40,000 RPM, high torque with foot control, low noise and vibration free autoclavable Micromotor . Advanced torque calibration to automatically set optimum speed and torque for each individual attachment with high level accuracy. Cellular optic light emission from the handpiece provides clear illumination of the target site to facilitate even faster more precise treatment.  Supplied with.  20 degree angle hp  Straight Handpice autoclavable 40,000 rpm  20: 1 Reduction handpiece for implant | 02 |
| DEN57 | Surveyor | Implant Micro Surveyor | 02 |
| DEN58 | Ultrasonic croUltrasonic crown remover for removing crowns Bridges | Hand force removal with compressed air as removal method with 3 attachment types clamps, forceps & loops | 02 |
| DEN59 | Piezotome Unit | 1 Hindpiece, Set of 6 bone surgery Tips, Set of 5Sinus Lift Tips, set of 6 Power Periotome Tips, Set of 5 Intrlift Tips, 1 Large Sterilization Cassette, 2 Sets of Autoclavable Tubing And 20 Irrigation Bag Spikes | 02 |
| DEN60 | Orthodontic Micro Implant kit | with sizes of implant from 008 to 012 10 implant each, Implant driver 1 palatal, 1 Universal, 01 punch drill, 01 guide drill with Autoclavable Implant kit box | 01 |
| DEN61 | Cordless LED Light cure | Light cure unit type with cooling 1300 m/w/59 cm. With 4 cooling modes (RAMP Fast, Long & plux )Powerful Lion battery- 4000 sec.work | 10 |
| DEN62 | HIRO System for lingual Orthodontics |  | 01 |
| DEN63 | Hydro solder Unit | Compact with maximum gas production up to 80 1/b main connetion voltage 230 U/50 Hz 2-1 reactor and nickel electrode no necessity for changing electrodes. Through compliance with safety regulator | 01 |
| DEN 64 | Pressure molding machine | Universal unit for complete thermoforming tech. Should be suitable for all techniques. Press (min-4bar, max 6 bar)  Trial kit containing at least 100 plates of diff. Sizes thick & color | 02 |
| DEN65 | TARG Torque angulation reference guide |  | 01 |
| DEN66 | Mobile Dental Van | The technical specifications of the Mobile Dental Clinic are divided into:  1. Selection of Vehicle Chassis  2. Vehicle Fabrication Specifications  3. Dental Equipment   1. Selection of Vehicle Chassis    1. Engine Details (Bharat IV / Euro IV complaint)       1. Cylinders – 6       2. Max Power – 92 KW @ 2400rpm       3. Max Torque – 416 Nm @ 1200rpm       4. Clutch 350 – 360 mm Dia, Single plate dry       5. Gear Box – 5 speed synchromesh       6. Steering - Power Steering       7. Brakes - Dual Line Full air brakes       8. Rear Axle - Fully floating hypoid Gear       9. Battery - 24 V (12V X 2) – 150 AmpHr       10. Fuel Tank capacity – 150 liters or above    2. Chasis (should be approved by govt recognized centers like ICAT,VRD,ARAI and CIRT)       1. Suspension front - Shackle Ended / rubber ended leaf       2. Suspension rear - Air Suspension       3. Tyre - 10.00 x2 – 16 PR (7 including spare)       4. Overall Length - at least 11020 mm       5. Front overhang - at least 2000 mm       6. Rear overhang - at least 3380 mm       7. Max laden Weight - front axle 6000 kg       8. Max laden Weight - rear axle 10000 kg       9. Max laden Weight - Total 16000 kg 2. Vehicle fabrication    1. General       1. Body - Aluminium / Steel 12-16 guage       2. Paint - Powder coated paint       3. Graphic exterior - to be approved by college       4. Windows - sealed window       5. Door - wide for stretchers & wheel chairs(2.5 feet)       6. Entry - Low floor ladder entry       7. Insulation - fire retard insulation in Body and Floor       8. Floor - Metallid SS floor with durable Vinyl Flooring       9. Storage tank- 250 L with pump 0.25 HP       10. Waste Water - 200 L waste water tank from dental chair    2. Electrical       1. Wiring - 2.5 mm2 for 5 amp and 4 mm2 for 15 amp Insulated copper wire with proper earthing       2. Voltage Stabiliser - 5 Kv       3. Circuit breaker - Adequate number of MCBs       4. Shore Power - External power supply provision       5. Generator - 5 Kva, Diesel, 4 cycle, water cooled, vibration free, noise less       6. Air condition- 3 ton Split design (5 star rating BEE)       7. Flasher and Siren - Ambulance style       8. Lights - appropriate lights on external and roof       9. Interior Lights - Adequate LED lights       10. Fan - Adequate number of Mini Fans       11. Power points- Adequate number of 5 amp and 15 amp    3. Driver Cabin       1. First aid box       2. Fire extinguisher    4. Doctors Cabin       1. Seating capacity - 12 people (front facing)       2. Foam - High Density moulded polyurethane foam       3. Rest - Head rest and foldable arm rest    5. Operating Area       1. Wash Basin - 1.5 Feet X 2 Feet       2. LCD TV - 22 inch       3. DVD player - with remote control       4. Refrigrator - 75 litre or above       5. PA system - hand held battery operated PA system       6. Working Table - 1.5 feet X 5 feet Granite Top       7. Furniture - Furniture and fixture made of termite resistant plywood with laminate , drawers with proper channel, doors with proper handle and hinge. Adequate for storing all dental material and equipments (compressor, fridge, scaler, etc) 3. Dental Equipments    1. Dental chair   . ELECTRICALLY OPERATED DENTAL CHAIR MOUNT UNIT  1. Electrically Operated micro processor based multi programmable Dental  Chair.  2. The Chair should have Erasable Programs with Microprocessor controlled,  where Doctor can set his own programs. The Program switch should be fitted  to the instrument Tray. Program 0 and Gargling. 1 & 2 erasable Program  3. Body converging Movement  Back rest and body should moves together, so that it will not strain the back of the patient. .When it is completely flat, surgeon should get the head down position,  4. The Right side Arm of the Chair has lateral rotation for easy access of the Patient.  Chair Mount Unit fitted with:  a) LED Light with 3 intensity with 3 axis movement, 40,000 to 45,000 Lux ,  maximum power consumption should be 4 to 6 watts.   * On/off by sensor switch non-touch * 3 step Intensity control by non-touch sensor   b)Auto water connection for Spittoon and Tumbler. Total basin cover should be single piece high quality porcelain with perfect smooth spittoon   1. STAINLESS STEEL INSTRUMENT TRAY for keeping instruments. 2. LED X-RAY VIEWER 3. Monitor Mounting Arm with the integrated wiring   g) HIGH & LOW VACCUUM MOTORISED SUCTION : Noise free, which consists of High Vacuum and Low vacuum with flow control valve with Auto Start. The Fluid collection container has auto drain system and also auto flush system. Amalgam collection filter.  Modular (Delivery System over patient) fitted with:   * 1. AIROTOR CONTROL ONLY   i) Airpolisher compatible to Airotor coupling  with 500 gms powder of lemon flavour  B. Micromotor  Micromotor Brushless Speed range 2000-40,000 RPM.with digital display of speed Should be Supplied with:  i) Contrangle Handpiece –Autoclavable speed 40,000 RPM 1 No    ii)Straight Handpiece –Autoclavable speed 40,000 RPM 1 No  C. 3 Way Syringe for Air , Water & Spray 2 Nos  one for Doctor and one for Assistant  D. Piezotronic Scaler 1 No  Piezotronic Scaler 28 to 32 Khz frequency. Autoclavable Handpiece total control is micro processed based control unit. Handpieces most sleek. The scaler is supplied with 3 tips  t be any heat  a.ZERO BACK ACHE STOOL :Should be most latest Surgical Stool having raising and lowering by pneumatic piston with chromium plated legs. Back rest should move forward and backward along with the body by pneumatic piston and it should give support all the time. The seat should have a piston to move with the body when a Surgeon leans forward.  b.Light cure  Cordless LED Light cure  Light cure unit type with cooling 1300 m/w/59 cm. With 4 cooling modes (RAMP Fast, Long & plux )Powerful Lion battery- 4000 sec.work   * 1. Boiler   2. Ultrasonic cleaner   3. Portable x ray   4. Developer box   5. Intra oral camera   3 mega pixels or more cmos, sharp and vivid images. USB 2.0 connection, can be connected directly to PC or Laptop. The images can be saved via software which included in the package. Open code, works with most of Dental Clinic Management softwares.  At least 6 LED LAMPS.  Auto focus lens with 5mm-50mm focus range.  Freeze Button, light on/off button.  USB Cable Length: 2m  Angle of view minimum 90  Field of view minimum 80 | 01 |
| DEN67 | Anesthesia machine | 1. MS & aluminum combined structure with polyurethane coated finish for long life.  2. Forged body regulators for medical oxygen & nitrous oxide for maintenance free operation.  3. Two numbers each forged yokes with ss fittings for medical oxygen & nitrous oxide at the sides.  4. Colour coded Yoke mounted high pressure gauges.  5. Two tube rotameter with oxygen ratio controller with unitized rotameter.  6. Magill’s breathing system one number in addition.  7. Bain’s breathing system one number in addition  8. Safety features :   * Oxygen failure warning device (OFWD) * Nitrous oxide cut off in the absence of oxygen * Oxygen ratio controller   9. Large diameter castor wheels with individual brakes at front castors  10. Local service support with hand-phone number of engineer  11. Should be manufactured in an ISO certified facility  12. Circle absorber may be quoted as an option  13. Cage-mount isoflurance vaporizer may be quoted as an option | 01 |
| DEN68 | Casting Machine Motor cast | with the safety door closure Gas blow torch with Regulator | 01 |
| DEN69 | Short cycle Autoclave | * Table Top front Loading Autoclave * Fully Automatic Micro - Processor based control * Temperature select 121 C Nd 134 C   Chamber Size approximately : 225 mm Dia x 430mm Depth | 01 |
| DEN70 | Preheating furnace | With digital display and controller cum digital timer  Can work on 220/230 volts AC  Inner size 300x250x350 mm | 02 |
| DEN71 | Distraction Osteogenesis kit | 1. Intra oral mini distractor for mandrual right & left distractor langth 15 mm, 20 mm 2. Intra oral mini distractor vertical for alveolus 2+2 holes, 3+3 holes 3. Extra oral mandibular uni directional 4. Extra oral mandibular multy directional 5. Screw driver for intra oral distracter 6. Screw driver for extra oral distracter Box type, Hegsa gonal 7. Screw 2mmx 6mm stain les steel   2mmx 8mm stain les steel  2mmx 10mm stain les steel | 02 |
| DEN72 | Grafting kit | Skin grafting handle (Humby’s knife)  Doyen mouth gag  Rib cutter double action  Doyen’s rib shear  Rib raspating right & left  Bone cutting forcep double action | 02 |
| DEN73 | Osteotomy kit | 1. Nasel chisel & guard 4mm, 6mm 2. Tessier osteotome 15mm, 20mm 3. Fine osteotome straight 3mm, 4mm 4. Gigly saw wire 5. Gigly saw handle in pair 6. Nylon faced hammer | 02 |
| DEN74 | Soft tissue Dental Laser | Dimensions WxHxD (3.5”x7.0x2.5”) (8.5x18x6cm)  Weight 2 Ibs (1.0 kg)  Operating voltage 100 to 240 – at 2A  Frequency 50/60 Hz  Laser classification IV (4)  Wavelength 940+15mm  Max output power 7 watts at940  Power models continuous, pulse modulation  Pulse length 50 sec (0.05) 10 sec  Pulse interval 50 sec (0.05) 10 sec  Pulse repetition rate up to 10 Khz  Fiber tips diameter 200,300,400 | 02 |
| DEN75 | Oscillating saw | For intra oral use with all hand piece & different types of blades  Micro saw hand piece ISO-E type  Reciprocating – 1.8 mm vertical reciprocating action  Oscillating – 17 degree horizontal reciprocating action  Sagittal – 3 degree horizontal reciprocating action  Baldes  Reciprocating 11 mm  Reciprocating 20 mm  Sagittal 10 mm  Oscillating 6 mm x 30mm  6 mm x 45mm  6.5 mm x 30mm  6.5 mm x 45mm  9.3 mm x 30mm  9.3 mm x 45mm  Micro surgery Hand Piece  Straight 1:1 direct drive  20 degree angle hand piece 1:1 direct drive | 02 |
| DEN76 | Cautery Machine | Performance   * Operating frequency : 350 Khz min * Display : Dial control * Three cut modes : Pure auto cut and two blended modes for proper haemostasis in cut mode * Micro / Macro bipolar modes * Three coag modes : true spray, force coag & self coag * Separate monopolar & micro bipolar outputs * Light weight with microprocessor design preferably 4.5 kgs.   Patient safety :   * Isolated RF output * Self limiting output * Micro control feedback * Power supply safety : 170-255 V AC   Accessories :   * Double pedal foot switch * AA patient plate with cable * Autoclavable click handle * Set of electrodes * Bipolar forcep with cord   List of major installation in Indore region local service engineer (state yes or no) | 04 |
| DEN77 | Magnification loupes with attached fiber optic led light | Prism loupes with adjustable inter ocular distance, adjustable viewing distance, magnification 3.0X or higher. Working distance more than 300mm. | 03 |
| DEN78 | Apex locator | 5th generation or above | 02 |
| DEN79 | Piezo Ultrasonic scaler | Ultrasonic unit with full range of endodontic, retro preparation and conservative tip inserts | 02 |
| DEN80 | Vertical reciprocating endodontic handpiece | Endo hand piece with capability of attaching both latch type and hand endodontic files. Capable of working with e-type motor. | 01 |
| DEN81 | Tooth Contact buildup system | To build up proper contact between adjacent teeth  compatible with all present dental composite systems and light cure units. | 01 |
| DEN82 | Intra oral camera | 3 mega pixels or more cmos, sharp and vivid images. USB 2.0 connection, can be connected directly to PC or Laptop. The images can be saved via software which included in the package. Open code, works with most of Dental Clinic Management softwares.  At least 6 LED LAMPS.  Auto focus lens with 5mm-50mm focus range.  Freeze Button, light on/off button.  USB Cable Length: 2m  Angle of view minimum 90  Field of view minimum 80 | 05 |
| DEN83 | Paquette Blade Handle for periodontal surgery | Specification not required | 01 |
| DEN84 | Laboratory Micromotor With control box & foot control | Motor of 35000RPM. | 20 |
| DEN85 | Autoclave Verticle | Size – Approximataly 350x550mm  Steam release valve  Temperature & pressure individual  Double drum, Double chamber with extra safety valve  Pressure for 2 different temp. 121’C & 134’C | 08 |
| DEN86 | Compressor | 1.0 HP Oil Free compressor Impoved Head (with Indian Tank) | 20 |
| DEN87 | Composite restorative instruments kit | Composite restorative instruments of various shapes and teflon coated | 12 |
| DEN88 | Basic bone plating instruments containg- | -Bon eleuators  -Plier  -Bone tap  -Trocar sleeve  -Depth huaze  -Self holding screw driver with aluminum handle and fiber  -Ordinary screw driver  -Mini open gear bone drill with 2 collets  -Plate bending forceps with & without pins  -Plate holding forceps  -Plate bander  -Modlling lever  -Bone holding forceps  -Scrow holding forceps simple & X action.  -Instruments should be compatible for use with titanium plate & screws ISO 9001 company  Should be supplied in a autoclaveble ss box and bags | 03 |
| DEN89 | Maxillofacial trauma and reconstruction plating system | -The Plate and screws should be of titanium feeling bio-compatibility, corrosim resistance and a self referrting protect titanium oxide layer.  -All plates should accept scrow of all diameters with ruuber or looking  -The design of the plates should be such that they aceept locking as wall as neubral screws.  -There should be are screwdriver compatible for all screw 1.2mm & 1.7mm  -There should be one screwdriver compatible for all screw of 2.0mm , 2.3mm & 2.7 mm diameters & types  Instrumentation-  -Plate and screw holding forceps  -plate bendign tools /cutter  -Universal bending pliex -Trocar  -Drill bits, Dental shaft and of different size  -Crose pin screwdriver compatible with all size/ types of screws  -Depth gauze should e quated with pltes & screw of all size & shape  -The System should be quoted with sutable stores and sterliging contationar for complet inventer and the system should samply with information for design & Qualithy.  -2.2 screw system for intermaxillary fixation.  -Story  -Sterlizable implant container.  Instrumentation  -screwdriver handle  -screwdriver blade crossfit  -twist drill dentel shaft end size 1.5x40mm normaly 20mm  Compornts-  -Titanim Inf screw size 2.0x5mm cros  -size self lapping (uplay)  -Titanium INF screw size 2.0x14mm  -cross slef selflapping  -Ligahere wix blund 0.5x160mm | 02 |
| DEN90 | Dental Implant system | 4. Dental Implant System  The Completes kit with instruments & implate and physildispenser with handpices  4.1 Secification for dental implant Instruments  -Inteonaly imifoted round beer  -2.00 mm Sharp point internally derigatel pilot drill.  -2.2mm drill sharp point internally irrigate  -2.5 mm drill  -2.8 mm drill  -3.30mm drill  -4.30 mm drill  -Drill extension with internal irrization.  -Surgical rateckt drach with variable large adjustment from 10 to 40 n cm lavily squaer & tcex head atticment.  -Adapter for hex ratelct.  -short medium & loy location tool for dental hex screw implants  -Mini implant short insertin tool adapter  -Immidiate loding implant slot & by insrationhol adapter.  -Parallilty tool -4  0.050 hex screw drum short & low  4.2 Specification for physiodespenser along with handpice  -Maine unit should be capable of indipanted control  -Should be possible to switch moter on/off from main unit without touching foot switch.  -Should be possible to switch pump of/off form main unit without touching foot switch.  -All parameters should be capable of charge independeantly form main unit  -Foot pedal should have dynamic speed control  -Veriable large settiys from 5-60 n cm should be available  -Calibration of large should be possible  Micromotor cable should be completely autoclave.  4.3 Threded inplants of all sizes and layers should be provided along with all dostitic comamt | 02 |
| DEN91 | Dental Chair Electrically operated Dental chair mount unit  Without attachments | 1. Electrically Operated micro processor based multi programmable Dental Chair.  2. The Chair should have Erasable Programs with Microprocessor controlled,where Doctor can set his own programs. The Program switch should be fitted to the instrument Tray. Program 0 and Gargling. 1 & 2 erasable Program  3. Body converging Movement. Back rest and body should moves together, so that it will not strain the back of the patient. .When it is completely flat, surgeon should get the head down position,  4. The Right side Arm of the Chair has lateral rotation for easy access of the Patient.  Chair Mount Unit fitted with:  a) LED Light with 3 intensity with 3 axis movement, 40,000 to 45,000 Lux ,  Maximum power consumption should be 4 to 6 watts.   * On/off by sensor switch non-touch * 3 step Intensity control by non-touch sensor   b)Auto water connection for Spittoon and Tumbler. Total basin cover should be single piece high quality porcelain with perfect smooth spittoon  a. STAINLESS STEEL INSTRUMENT TRAY for keeping instruments.  b.LED X-RAY VIEWER | 24 |

FORENSIC MEDICINE

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| --- | --- | --- | --- |
| S.N | NAME OF EQIPMENT | SPECIFICATION | TOTAL |
| FOM1 | Autopsy table | 1. Table Top  - Stainless steel, Type 304, Satin Finish / Stainless steel  - Should have dissecting area and sink.  2. Dissecting Area  - should have grid plates.  3. Sink  - Plumbing should be factory finished.  - should have hydro aspirator with reverse flow features, control valve and vacuum breaker.  14. Polyurethane dissecting board - 2 feet x 11/2 feet blade handles and goosneck faucets  - Should have sink rinse with hose fittings and hose hanger.  4. Table Pedestal  - Stainless steel, Type 304, Satin finish  - Pedestal type  5. Ventilation  - down draft ventilation system  6. Electrical Receptacles  - GFCl type/ shock proof safety precaution in situ, 220-240 volts AC 50 Hz  7. Disposer unit  - should have soulnoid valve.  8. Dimensions  - length 250-260 cm  - width 75-80 cm  - height -should be adjustable 80-100 cm  9. Polyurethane head rest -  - must be able to support neck while dissection  10 Stainless steel centimeter scale - Must be engraved type  11. Scale support socket - must be able to hold the scale support bar steadily.  Should have hot / cold water fixtures with wrist operation.  12. Polyurethane dissecting board - 2 feet x 11/2 feet blade handles and goosneck faucets | 9 |
| FOM 2 | Mortuary  Cooler | The chamber for four Dead bodies.  Temperature between (4 to 6c)  Insulation poly urethane foam.  Roof top refrigeration unit with air cool condenser.  Electric supply 230+10 V-50 Hz  A vapour proof incadescent lamp.  Digital type temperature indicator cum controller.  Rust Proof Body.  Door stainless steel.  Stainless steel tray in single pieces two and four respectively for both unit edge and handles.  The assembly should have three pieces carriage assembly which includes frame and lower and upper carriage and should ride on wheels.  Minimum 20 installations in India and 3 in Bhopal and should have 20 in this field.  Company should have service centre in M.P. | 9 |
| FOM 3 | Electric autopsy saw | Oscillatory type, light weight, made up of tuff material, shock proof, speed controller, long cord 15- 20 feet, power supply 320 volt AC, 50 Htz, different attachment of blade changing, Accessories ( tools for oiling, greasing, carrying case), speed 12000 to 21000 per mins, Heavy duty motor. | 6 |
| FOM 4 | Anthropometric measurement set | |  | | --- | | Anthrometer (2) – for Ht. 0-2100 mm brass ,Wt. 1.5 kg wooden case | | Sliding caliper (2) – Martin type L-02-200 mm ,D 0-50 mm Wt.111. 250gms brass with box | | Sliding caliper (2) – Poech type range 0-250 Wt 400gms Brass with box | | Sliding Calipers with vernier 1/10 mm –Length 0 -150 mm W 250 gms GPM Swiss make | | Condyle caliper – Nickel plated 0-140 mm Holtain made W 0.3 kgs | | Coordinate caliper - Range 20-220 mm N.Wt 200 gms, Indian | | Spreading caliper pointed ends - 0-600 mm Brass in wooden box | | Spreading caliper rounded ends - 0-600 mm Brass in wooden box . | | Cubic craniophor - Martin type with skull holder | | Mollison Craniophor – Combination instrument consist of auricular head spanner | | Diagraph - Martin type with pencil holder | | Verificator – Caliper checking gauge 10-250 mm | | Horizontal tracing needle – Needle Ht. 450 mm | | Parallelograph – Martin type for angle of Jt. axes. | | Bone support – Martin type | | Palatometer To measure palate | | Orbitometer Swiss make | | Skin fold caliper Harpenden type range 80mm | | Skin Fold caliper slim guide Plastic 0-85 mm | | Goniometer Mollison type ( Attachable ) 0-180 Degree | | Oestiometeric table –Aluminium | | Mandibulometer Improved execution Black type metal | | Diaptrograph Martin type rectangle type craft in metals | | Measuring tap steel tape auto rewind double scale (mm/Inches) | | Human skeleton –Articulated | | Baby infantometer Folding model PVC rang 3 Ft. | | Baby weighing scale – Mechanical model fiber plastic pan Range 10gms to 5kgs | | Spring balance – Range 0-5kgs with canvas bag | | Bathroom scale - 125 kg | | Digital professional scale Plate form 1 Ft. Approx. 150 kg range Body meter  Wall mounting type range 2 meter Graduation 1 mm | | Girth measurer – with automatic retraction range 0-150 cm | | Mercury sphygmomanometer – range 300 mmHg 50f (5 nos) | | Stethoscope (5 nos.) | | Magnifier lens (02) – Dissecting 100 mm diameter | | Magnifier lens (02) –with stand 100 mm diameter | | Magnifier lens (02) – hand lens 100 mm diameter | | Magnifier lens (02) – For linen 9x Metal frame square aperture steel (L) | | Finger print analysis kit | | Finger print materials – Finger & palm printing pad (02) | | Size 12 Inches Rubber roller with wooden handle | | Finger print lifting tape – (02) pack of 50 tapes | | Finger print powder – Black powder 50gms (02)- Grey powder 50gms (02 ), | | Finger print roller (02) Big rubber in metal and wooden  handle | | Finger print ink 100gms (02) Black | | Finger print stamp pad (02) Black size 4 inch x 7 inch | | Clinical thermometer (02) | | Todd head spanner Range 200 mm Net wt 500gms Approx. | |  | |  | | 6 set |
| FOM 5 | Weighing machine for weighing dead bodies | |  | | --- | | Weing up to 150-200 Kg. | | 02 Digital Display | | 03 Stainless Steel top. | | 04 Plateform size approx.61/2x12 | | 05 Battery backup | | Range 0-14 Ph, ± 0-1999 mV. | | 06 |
| FOM 6 | Organ weighing machine | |  | | --- | | 1 Digital display machine  2. Maximum accuracy 1 grams. | | 3 Stainless steel article holding plate. | | 4 Platform steel about 1 feet. | | 5 Detachable platform (For essay washing purpose.) | | 06 |
| FOM 7 | Ph meter | |  | | --- | | Range 0-14 PH, +/- 0-1999mV  Resolution -0.01 Ph/1Mv /0.1 0C. | | Resolution – 0.01 Ph/1mv/0.1 0C. | | Temperature compensation – 0-100 0C. | | Calibration – automatic with battery backup  for memory, 2 point calibration. | | Display – digital – LED display. | | Control – Microprocessor based. | | Automatic pH standardisation. | | 05 |
| FOM8 | Deep freezer | Vertical type  Inner chamber should be made of stainless steel  Powder coat paint finish  Secure inner doors  Energy – efficient double door option  Internal capacity 400-450 lts  05 component with four adjustable shelves  Freezer should be supplied with pull out racks with pull out.  Heated air vent with plunger to prevent vacuum formation.  Complete with boxed and for vials.  High – low cut protection facility for compressors  Inbuilt diagnosis software provide faults codes to trace the system error  On-off switch and on off alarm should be lockable  04 digit password protection  Microprocessor controls.  Lowest attainable temperature of -80 degree C at the ambient temperature range of 28to 30 degree C.  Automatic restart with memory.  Audio and visible alarm battery low, filter clean and fault analysis.  CFC/HCFC- free, ozone friendly refrigerants.  Voltage 220-240V,50/60HZ. | 06 |
| FOM9 | Mannual rotary microtome | Mannual rotary microtome (AO spensor type) Front located field indicator capable to make slice of 1-50 microne-cutting angle adjustable SS knife minimum 3 block holder | 02 |
| FOM10 | Fully automated tissue processor | * Complete programmer logic controller for completed cycle. * User-friendly with on easy-to read 5.6” touch screen LCD and easy to oprate intuitive user interface arrange in functional groups. * Capacity: 1 liter * 12 Stage timing sequence may be programmed 4 each stage for duration between 1 minute to 9 hrs. 59 minute, in steps of 1 minute * Automatic wax bath specially designed for PID control and PT 100 sencer * Tissue capsule basket of s.s. with even perforation * Numbers of programmes:10 * Programmable basket hold time for each stage * 5.6” touch screen display * Capacity of up to 100 cassettes * Product must be CE marked   Manufacturer must be ISO certified with WHO GMP compliance certified plant. | 02 |

GASTROTEROLOGY

|  |  |  |  |
| --- | --- | --- | --- |
| S.N. | Name of Equipment | Specification | Total |
| GST1 | Upper GI Endoscope (Video) | 1-A : Should have following features and specifications :   |  |  |  | | --- | --- | --- | | Field of View | : | 140 degree or more | | Direction of View | : | 0 degree forwarding  viewing | | Depth end outer diameter | : | 9.8 mm or less | | Insertion tube outer diameter | : | 9.8 mm or less | | Tip bending range | : | Up 2100, Down 900,  left & right 1000 | | Working length | : | 1030 mm or more | | Channel inner diameter | : | 2.8 mm or more | | Minimum visible distance of Instrument used thru channel | : | 3 mm or closer from  distal end. |   Slimmer / light weight and fully immersible in disinfectant solution and compatible with leak testing  device with auto regulated air flow and pressure two light guide, 4 or more no of remote control switches on control body. Silicon free Air / water and suction valve buttons with separate inlet ports for better air and water  transmission. Instrument should be computable with narrow band imaging / FICE / I-Scan and  other high advance high definition technology.   |  | | --- | | 1-B : Light Source & Video Processor : Should  have following features.  XENON light source 300 W or more with spare lamp  facility (halogen light), capable of generating special  band of light (narrow band imaging / FICE /  I-Scan) helpful for minute mucosal diagnosis.  Automatic IRIS control, picture displays with image  size adjustment (3-4 different size of image display),  electronic zoom upto 1.5 x or more. Automatic bright  ness control, force air cooling, white balancing. On  screen color control, compact and light weight,  medical (high definition) grade 14" monitor (RGB),  Video output : RGB output for compatible with RGB  monitor. | | 1-C Computer : Window 7 with multimedia DVD writer  and Drive, Scroll Mouse, 500 GB HHD or more,  special software for recording endoscopic procedures,  15" colour monitor, Photo quality inkjet printer, UPS  with 1 hour back up. |   1-D ; Trolly for all above instrument | 2 |
| GST2 | Video Colonoscope | Colonoscope (Video) :   * Slimmer / light weight and fully immersible. * 4 or more remote switches on control body. * Graduated stiffness for better operational control. * Field of view wide 140 degree or more. * Depth of field : 3 mm to 100 mm or better. * Distal end diameter : 13.2 mm or less. * Channel diameter : 3.7 mm or more. * Bending range : up and down - 180 degree I & R   - 160 degree.   * Working length : 1675 mm or above. * Instrument should be compatible with band imaging.   I-B : Light source and video processor : &  I-C : Computer : Not needed because this machine can be operated with light source and processor of UGI scope. | 1 |
| GST3 | Video ERCP Scope | ERCP Scope with Processor and other accessories  (Video ERCP (Side Viewing) Scope) :   * Dual (separate) inlet ports for better air and water transmission. * Compatible with leak testing device with auto regulated air flow and pressure. * Four or more no of use programmable remote control switches on control body.  |  |  |  | | --- | --- | --- | | Field of View | : | 100 degree or more | | Direction of View | : | 5 degree backward  oblique viewing | | Depth of field | : | 5 to 60 mm or better | | Distal end out diameter | : | 13.5 mm or less | | Insertion tube outer diameter | : | 12.5 mm or less | | Tip bending range | : | Up 1200, down &  left 900, right 1100 | | Working length | : | 1240 mm or more | | Channel inner diameter | : | 4.2 mm or more | | Instrument should be computable with narrow band  imaging / FICE / I-Scan and other high advance  definition technology) | | | | 1 |
|  |  | I-B : Light source & Video processor : Should have following features and specification :  XENON Light source 300 W or more with spare lamp facility (halogen light), capable of generating special band of light (narrow band imaging / FICE / I-Scan) helpful for minute mucosal diagnosis.  Automatic IRIS control, picture displays with image size adjustment (3-4 different size of image display),  electronic zoom upto 1.5 x or more. Automatic brightness control, Forced air cooling, white balancing, on screen color control, Compact and light weight, Medical grade 14" monitor (RGB) video output RGB output for compatable with RGB monitor. |  |
|  |  | 1-C Computer : Window 7 with multimedia DVD writer and Drive, Scroll Mouse, 500 GB HHD or more, special software for recording endoscopic procedures, 15" colour monitor, Photo quality inkjet printer, UPS with 1 hour back up. |  |
| GST4 | Capsule endoscopy system  (One complete unit) | Workstation Set R6 Includes :   |  |  | | --- | --- | | 1. | Workstation –  LG 20" flat screen monitor  Canan pixma IP3500 Printer  Rapid 6 SP Software Kit Diskonkey 12 GB  Patient Preparation Pad | | 1 |
|  |  | |  |  | | --- | --- | | 2. | Data Recorder 2C Kit  Belt Support belt  Extension belt  Data recorder cradle  Data recorder with Li-ion battery  Sensor array 8 lead  Sensor array 3 lead  Data recorder batter charger | |  |
|  |  | |  |  | | --- | --- | |  | Measuring tape 1  Allocation kit 1 | |  |
|  |  | |  |  | | --- | --- | | 3. | Accessories Pack  Key Board 1  Mouse 1  Power cable 4  Connection cable 1 | |  |
|  |  |  |  |
| GST5 | Endoscope ultrasound system  (One complete unit with radial and lineal proble) | Broad based technical specification for gastroendosonography  system includes :   1. Ultrasonic gastrovideoscope (Radial)   ii) Ultrasonic gastrovideoscope (Linear)  iii) Ultrasound processor with color oppler function  iv) Video processor module  v) 300 watt xenon light source  vi) High resolution monitor  Specifications:  Ultrasonic gastrovideoscope (Radial) :Should have  following features : | 1 |
|  |  | 360 degree electronic radial scanning and facility for  image rotation  EUS images with four or more selectable frequencies  (5/6/7.5/10 MHz)  Color and power doppler for effective confirmation of blood flow  Lens cleaning function for keeping the endoscopic field of view clear at all times.  Field of view should be around 100-120 degree.  Direction of view should be 50-60 degree forward-oblique.  Depth of field should be 3 to 100 mm or less.  Insertion tube outer diameter should be around 11-12 mm.  distal end should have short rigid portion for less trauma to the patient.  Instrument channel diameter should be around 2-3 mm.  EUS scope should be fully immiscible for through cleaning. |  |
|  |  | Ultrasonic Gastrovideoscope (Linear) : Should have following features :  Should have 180 degree electrical curved linear scanning.  Should have EUS images with four or more frequencies (5/6/7.5/10 MHz)  Should have color and power doppler for effective confirmation of blood flow.  Field of view should be around 100-120 degree.  Direction of view should be 50-60 degree forward-oblique or forward viewing.  Depth of field should be 3 to 100 mm or less.  Insertion tube outer diameter should be around 11-12 mm.  distal end should have short rigid portion for less trauma to the patient.  Instrument channel diameter should be around 2-3 mm.  EUS scope should be fully immiscible for through cleaning.  Preferable if a cable to EUS processor is detachable for easier carrying purpose.  Better to have compatibility of special light function such as |  |
|  |  | Ultrasonic Gastrovideoscope (Linear) : Should have following features :  Should have 180 degree electrical curved linear scanning.  Should have EUS images with four or more frequencies (5/6/7.5/10 MHz)  Should have color and power doppler for effective confirmation of blood flow.  Field of view should be around 100-120 degree.  Direction of view should be 50-60 degree forward-oblique or forward viewing.  Depth of field should be 3 to 100 mm or less.  Insertion tube outer diameter should be around 11-12 mm.  distal end should have short rigid portion for less trauma to the patient.  Instrument channel diameter should be around 2-3 mm.  EUS scope should be fully immiscible for through cleaning.  Preferable if a cable to EUS processor is detachable for easier carrying purpose.  Better to have compatibility of special light function such as NBI, FICE and i-scan. |  |
|  |  | Ultarsonic cable :  Should have compatibility with the linear scope quoted here.  Ultrasound Processor with Color doppler function :  Compact & easily transportable unit with ultrasound & color doppler function.  Compatible with electronic scanning and preferably mechanical probes.  3D imaging option for radial scanning probes.  Preferable Generated frequency range : upto 30 Mhz or more.  Touch screen, dedicated and user friendly key board.  Cine Memory : 120 frames or more  Possibility to retrieve images thru USB port to record.  AGC, GAIN, STC functions.  Video processor module : Should have following technical specifications / features.  Portable and light weight.  Capable of storage patient data.  Capable of registering & recalling scope information like register the number of procedures before preventive maintenance is required service contract.  Information warranty date information etc.  Zoom capability for images and sharpness control.  Edge and structure enhancement facility.  Separate unit for light source will be preferred.  Should be equipped with HDTV imaging capability for observing of capillaries,  mucosal structures and other patterns.  Special light (Narrow Band Imaging / FICE / I-scan) capability to enhance the  visibility of capillaries and other structures on the mucosal surface.  should have HD / SD/SDI output for high quality video image transfer. |  |
|  |  | Should have convenient digital to digital recording facility for both still and moving images.  Should have PIP (picture-in-picture) display for any combination of endoscopic images, fluoroscopic images, ultrasound images etc.  300 Watt Xenon Light source : Should have following technical specifications / features :  Portable and light weight.  Lamp-Xenon short arc lamp ozone free 300 W or more.  Emergency halogen lamp as backup, which should automatically ignite, in case the main lamp gets defective.  Capability of Narrow Band Light / FICE / i-scan.  Function of automatic switch off when unit has been used for an extended period of time.  High Resolution Monitor :  19"- 26" High resolution LCD color monitor, HD compatible. |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| GENERAL MEDICINE   |  |  |  |  | | --- | --- | --- | --- | | S.N | NAME OF EQUIPMENT | SPECIFICATION | TOTAL | | MED1 | **Defibrillator** | 1. The defibrillator should be biphasic and have Rectilinear Biphasic waveform.  2. It should have monitor display of both selected and energy display.  3. It should have ability to provide verification of the defibrillator charging and discharging without removing paddles from storage wells .  4. In manual mode the unit should provide energy selection at (1-10,15,20,30,50,70,85,100,150,200 or more ) joules.  5. It should have default energy sequence 120,150 ,200 joules.  6. It should have ability to measure chest compression rate and depth in real time and both visual and with audible feedback provided.  7. It should have ability that all CPR data can be recorded and reviewed by using software specially designed for doing this (if needed).  8. It should have ability to see ECG signal processing extracts  CPR artifacts from the ECG so we can see the organized rhythm without interrupting compression.  9. It should easy to read three mode of display enables it to see in any envoirment.  10. It should be small, lightweight, compact and easy to carry. | 2 | | MED2. | **Multipara Monitor** | TECHNICAL SPECIFICATION FOR BED SIDE MULTIPARA  MONITOR  SALIENT FEATURE  Three channel portable anterior with colour TFT display  In-built thermal array recorder  Graded & Colour coded al  Critical alarm review page  Inbuilt rechargeable battery and slave display option  DISPLAY  Type \_ High resolution colour TFT display  Size : 6.4" (Diagonally)  Resolution 640\*480 dots or more  Excellent viewing from distance and angle  Parameters : ECG , Respiration, SpO2, NIBP and Temperature  Trace speed : 12.5, 25,50 mm/sec. For ECG & SpO2 6.25 ,12.5  & 25 mm/sec. For respiration  ENCODER /KEYS  encoder : Rapid access to all the functions and settings  of parameters  throuhg single knob  Hotkey : Quick action hot keys for alarm recall, NIBP start / stop,  recorder start/ stop  Freeze & Return to the main screen  Smart alarm acknowledge key with flash indicator  ECG MONITORING  Lead : 3 lead ECG monitoring (I, II,III) with cascade wave form  NON-INVASIVE BLOOD PRESSURE (NIBP)  Principle : Oscillometric  Display : Systolic, Diastolic & Mean pressure  Modes : Manual STAT (continuous 5 min, operation) and  automatic (time interval 2-90 min selectable)  Range : 20 to 250 mmHg  RESPIRATION  Principal impedance pneumography  Display : Waveform with respiration rate  RR RANGE : 4 to 150 BPM  TEMPERATURE  Range 12 degree C to 43 Degree C or equivalent  ALARMS  Alarm setting for all parameters  Patient alarm : Red flashing with audio alarm & messages  equipment alarm : Yellow flashing with audio alarm & messages  Alarm suspend : Contineous yellow  Auto setting HR/PR, SpO2, RR & Temperature  Manual settings : HR/ PR. SpO2, systolic Diastolic , RR aponea  & temperature  TRENDS  24 hour of graphical and tabular trends for HR/ PR, SpO2  Respiration, Temperature, NIBP trend  Alarm recall : Critical alarms with date, time & Message  ADULT/PAEDIATRIC/NEONATE APPLICATION  All applications from neonate to adult possible |  | | MED3 | **Central monitor** | 1. Central Station . it should have large screen (min21”), medical grade resolution TFT/LCD monitor (.1600X1200) with a real time and review screen. Alarms should also be configurable from/at the central station. It should be possible to delete/change/stop an event recognition that is an artifact or erroneous/ not needed. A high end black and white laser printer should be provided. 2. Server should have state of the art processor, > 4 GB RAM, 1TB memory inbuilt / external CD/DVD writer, USB ports and necessary software (including updateable / up gradation antivirus if needed. 3. A complete UPS system with 15 mins backup will also have provided in the quoted price. | 2 | | MED4 | **Invasive bedside monitor** | 1. Latest available monitors having a flexible modular design with easy interchange, upgradeability, data storage , retrieval, display, analysis and printing . The same system address a broad range of patients , from neonates to adults. 2. Should allow manually operated insant and automatic storage in case of arrhythmasias/other events 3. Clear large screen (> 19”) medical grade resolation (> 1600X1200) TFT/LCD display with a swivel base provided by the original manufacturer, allowing rotation and viewing from any angle. 4. Capability to have simultaneous display of > 6 parameters (including 2 invasive pressure, 02 or more configuration ECG leads) respiration, skin temperature oxygen saturation monitoring, capnography , cardiac output etc. 5. View and analyze data in graphical or numerical formats, real time measurements and trended data, and organize every onscreen elements as desired . Standard alarms that can be preset for multiple signs and configured in different ways for patient comfort. 6. Touch screen interface for quick access and configuration. Multiple present menu and customizable menus. 7. Configurable arrhythmia analysis tools , ST-T monitoring capabilities / mapping facility and adjustable alarms. 8. Send print commands to cental station from each monitor in various formats. 9. Wireless monitoring of the patient i.e patients should be able to move around freely and still monitoring ECG , NIBP and oxygen saturation 10. All medical telemetry has to be operated on latest recommended Medical Grade transmission frequency. It should be possible tom monitor the ECG (preferable all vital signs) from any remote location in or out of the hospital, either from an individual monitor or through central station. Software / hardware needed for remote access has to be provided. 11. Each monitor to be provided with all standard modules and accessories These are 2 ECg , NIBP, 2 invasive pressure channels , oxygen saturation temperature and respiration. Apppropriate mounts and hardware for bedside storage of all accessories has to be provided. 12. For all connecting cables (ECGs, transducer cables , NIBP cuff, saturation/ temperature etc) a spare cable has to be supplied with weach monitor. The vendor should also provide interfacing cables / hardware to connect to other standard makes of saturation probes /NIBP cuffs/ invasive BP transducers, etc. | 5 | | MED5 | **Vascular Doppler Recorder** | Hand held vascular Doppler with portal probe | 1 | | MED6 | **Aphasia Examination Kit** | Aphasia testing batteries : Testing material and protocols for assessment and therapy of subject with  aphasia including  (BDAE) Boston Diagnostic Aphasia Examination, (WAS) western Aphasia Battery , (PALPA)  Psycholingustic Assessment of language Processing in Aphasia , (ACTS) Auditory comprehension  Test for Sentences , (ASHH-FACS) American Speech language-hearing Association functional  assessment of communication skills for adults,  (CETI) Communicative Effectiveness Index, (FCP) Functional Communication Profiles, (PICA)  Porch index of communicative  Ability, (PP) Prtagmatic Protocol,  (TOPA) Test of phonological Awareness, (TT) Token Test.  ELA – Every day Activiter of living | 5 | | MED7 | **Electro- nystagmograph PC based Hardware Kit with following details** | Castors having locking arrangement, Pullout keyboard shelf.  Shelf for PC and Printer  Hardware Interface  Cart, Accessories, Computerized Light Bar, Patient safety  through optical isolation. Computer controlled  folding light Bar.  Electro-nystagmograph PC based Software Kit with following  details: Internal Loop-Back Test to check  system integrity  Notch filter and data validation. Portable Compact size.  **Electrodes:**  Type: Ag/Ag CI Disc Electrodes  ENG Cart: Two tier heavy duty cart made of pre-laminated  18 mm thick board with:  Standard Kit: Acquisition Box, Patient Connector, Accessories:  Electrodes, Manual, Cables and Connectors,  Recording paste, Dust cover  ·        Acquisition software on CD  ·        Analysis software on CD  ·        The ENG Tests: Saccades, Gaze, Pursuit, Positional, Dix  Hallpike, Caloric & Optokinetic  ·  User definable test sequence  ·   Automatic calculation of Culmination Frequency with manual  override  ·  Automatic plotting of butterfly charts  ·   Auto calculation of Slow Phase Velocity (SPY) | 1 | | MED8 | **Ventilator** | Fast response time combined with high peak flow up to 250 I/min, offer amazing performance. Very sensitive inspiratory & expiratory triggers, allow effective and effortless breathing Amazing sensitive pressure flow sensors and fast response time make it very gentle and synchronized ventilation despite of very  efforts by patients. Patented " Flow by technology " makes at virtually effortless triggering in  tracheostonized patients. Real time display of curves and loops with unique software. Display Pressure / time. Flow /time. Compliance loop (volume / pressure). Flow volume loop. Measured parameters, calculated parameters, trends, Alarms, Remote control | 4 | | MED9 | **Upper GI Endoscope** | **1-A**   |  | | --- | | **Should have the following features & specifications :**  Slimmer/light weight and fully immerssible  Two / Single light guide / processor connector remote switches  on control body. Silicon free Air/water  and suction valve buttons. Field of view : 120 degree or more.  Depth of field : 9.8 mm or less. Distal end  & ins. Tube dia. Channel dia : 2.8 mm or more. Bending range  : Up – 210 deg Dn–90deg L&R –100 DEG.  Working length : 1010 mm or more | | **1-B** | | **R.G.B. O/P processor and light source :** | | Should have the following features and specifications : Processor  / light source unit :Integrated or separate  units with Xenon or halogen. Processing : Digital signal  processing. Image display size/s : Full or small  screen display on monitor. Video out puts : RGB out put  essential for compatible with RGB monitors.  Edge enhancement : three steps. Light control system :Automatic  and manual control. Cooling system  :Forced air cooling. Iris control, white balancing, “ON SCREEN  “ colour control ( 10-14 incr. Steps).  Spare lamp facility with Quick changeover system from Lamp  1 to Lamp 2 and vice versa. Compact &  light weight. 1-C. Monitor : 14” RGB (Medical grade). | | 2 COMPUTER: Pentium – 4 with multimedia, CD writer &  Drive, scroll mouse, 30 GB HD or more  Special software for recording endoscopic procedures, 15 inches  colour monitor, photo-quality inkjet  printer, UPS(30 minutes for more back up). | | 3 ESOPHAGEAL DILATORS : Over the guide wire, boogie,  length 70 cm or more, in increasing diameter  5 mm to 18 mm, tapering end, with radio-opaque markers,  compatible with coated and steel guide wires. | | 4 SPRING TIPPED STEEL GUIDE WIRE , 0.38  ESOPHAGEAL ZEBRA OR SIMILAR GUIDE  WIRES. | | 5 FOREIGN BODY FORCEPS: Compatible with standard  2.8 mm channels upper GI endoscope |  |  | | --- | | 6 POLYPECTOMY SNARE WITH CONNECTING CORD :  Re-usable, compatible with 22mm  working channel | | 7 BOYLE’S APPARATUS WITH PULSE OXIMETER  ( JUSTIFICATION: FOR DOING  ENDOSCOPIES IN PEDIATRIC PATIENTS,UNCOOPERA  -TIVE PATIENTS AND SERIOUS  PATIENTS PROPER | | 2 | | MED10 | **Colonoscope RGB O/P processor and light source CD Rom /Writer** | |  | | --- | | Slimmer / light weight and fully immerssible | | 3-4 remote switches on control body | | Graduated stiffness for better operational control | | Field of view wide 145 degree or more | | Depth of field : 3 mm to 100 mm or better | | Distal end diameter : 13.3 mm or less | | Insertion tube diamter : 13.0 mm or less | | Channel diameter : 3.7 mm or more | | Bending range : up & Dn - 180 degree I & R -160 degree | | Working length : 1675 mm or more | | Processor / light source unit : integrated or separate unit with  senon or halogen lamp | | Processing : Digital signal processing | | Image display size : Full and small screen display | | Video output : RGB and composite with simultaneous display | | Edge enhancement : 3 steps mode | | Light control system : Automatic and manual control both | | Colling system : Forced air cooling | | Spare Lamp : Halogen 150 watts | | Iris control , white balancing on screen colour control with 12 or  more incremental steps | | \*We already have this processor and light source in department ) | | COLOUR MONITOR | | Compatible high resolution ICL colour monitor , 14 inches with  RGB, external sync (Video input) | | Computer specification | | PIV | | Con /Game port | | On PCI slot free | | 2576 MB RM 40 GM | | MS office | | Window XP | | 1024 x 768 - 14 inch monitor | | 2 | | MED11 | **Video ERCP Scope** | **ERCP Scope with Processor and other accessories**  **(Video ERCP (Side Viewing) Scope) :**   * Dual (separate) inlet ports for better air and water transmission. * Compatible with leak testing device with auto regulated air flow and pressure. * Four or more no of use programmable remote control switches on control body.  |  |  |  | | --- | --- | --- | | Field of View | : | 100 degree or more | | Direction of View | : | 5 degree backward  oblique viewing | | Depth of field | : | 5 to 60 mm or better | | Distal end out diameter | : | 13.5 mm or less | | Insertion tube outer diameter | : | 12.5 mm or less | | Tip bending range | : | Up 1200, down &  left 900, right 1100 | | Working length | : | 1240 mm or more | | Channel inner diameter | : | 4.2 mm or more | | **I-B : Light source & Video processor : Should have following features and specification :**  XENON Light source 300 W or more with spare lamp facility (halogen light), capable of generating special band of light (narrow band imaging / FICE / I-Scan) helpful for minute mucosal diagnosis.  Automatic IRIS control, picture displays with image size adjustment (3-4 different size of image display),  electronic zoom upto 1.5 x or more. Automatic brightness control, Forced air cooling, white balancing, on screen color control, Compact and light weight, Medical grade 14" monitor (RGB) video output RGB output for compatable with RGB monitor.  **1-C Computer** : Window 7 with multimedia DVD writer and Drive, Scroll Mouse, 500 GB HHD or more, special software for recording endoscopic procedures, 15" colour monitor, Photo quality inkjet printer, UPS with 1 hour back up. | | | | 1 | | MED12 | **Haemodialysis machine** | |  | | --- | | Computerized Screen | | 2.                  On Line Treatment Chart | | 3.                  Auto Self Test | | 4.                  Acetate & Bicarbonate Dialysis System | | 5.                  Chemical Disinfection with auto-shut off | | 6.                  Auto-shut Off Heat Dis-infection | | 7.                  Sodium, Bicarbonate and U.F. Profiling1 | | 8.                  Single Needle Double Clamp | | 9.                  Variable Dialysate Flow | | 10.             Blood Leak Detector | | 11.             Integrated Blood Pressure Monitor | | 12.             Volumetric U.F Control | | 13.             Blood Pump | | 14.             Heparine Pump | | 15 Arterial & venous Pressur Monitoring with Auto Limit setting | | 16.             Auto Start features | | 17.             Variable Sodium Bicarbonate Control System | | 18.             Automatic Drip Chamber Level Adjust | | 19.             Inbuilt Dialyser Holder | | 20.             Heat Exchanger | | 5 | | MED13 | **Ro plant** | Sodium hypochlorite Dosing Through Electronic Dosing Pump  Raw Water Storage Tank 5000 Lts , Loft Tank 500 Lts (Plastic)  Raw Water Feed Pump Monoblock Horizontal   1. Capacity 1000Lts /Hrs 2. Head 35 MVC   Multi Grade Sand Filter   1. Size of Vessels – 185 Dial X 944 Hos 2. Graded Sand Quantity 50 Kgs   Activated Carbon Filter   1. Size of Vesels – 185 Dia X 944 Hos 2. Activate d Carbon Media – 800-900 mg/gm 3. Body of Vessels – Fiber Reinforced Plastic   Anto Scalent Dosing System Through Electonic Dosing Pump  Micron Cartidge Filter 20 – Poly Proplene PTI ,USA  Hydropenumatic System – Pressure Tank Flexcon USA  RO Feed Puimp Grund FOS (Den Mark) Stainless Steel Body with 3 phase electric connection  R.O System should be completely skid mounted  RO Module with programmable logic control operation   1. R.O Capacity 200ltrs / Hrs permeate 2. Recovery 40% 3. Hydronauties USA membrane Size 4” DIa, 40” long   Control Panel   1. Pressure Gauges – Glycerin Filled – 02 nos 2. Rota Meters – 03 nos 3. Digital Conductivity Meter – Two- One For Inlet Water and Second for outlet Water 4. Pressure Switches – Two   Hydropneumatic System with One feed pump and pressure tank  Interconnecting Pipe work (ISIMarked) from Raw Tank to RO system and from outlet of RO to trated water tank | 1 | | MED14 | **ECHO machine** | 1.System should be a fully digital colour oppler echocardiography system.  2. System should use digital beamformer technology , capable of opplerating future techniques , should be upgradable through software and hardware .   1. system should have multi array probe technology for phased array, linear array, curved array and multiplane TEE Transducer,   4. System should have high resolution wide field view, flat 15” LCD Screen  5. Should have capability user to adjust screen, key board height and rotate for increased operator comfort.  6. The system should be capable of providing the following imaging and operating modes1  a. Sector, Linear, Convex, TEE-imaging.  b.2D, M-Mode colour M-Mode.  c. Colour flow oppler imaging.  d.Ultrasound/colour angio mode.  e. Fully steerable pulsed Doppler.  f.  Fully Steerable continuous wave oppler.  g. Digital cine replay of all imaging & Doppler Modalities.  h. On Screen cine oppler & image recall, with large memory  HHD.  i.   Digital Image storage and patient archive with true scanner frame rates.  j.  Tissue Doppler imaging tissue colour Doppler coding.  k.Full Measurement and Analysis capabilities.  l.   Imaging Frequencies from !.5MHZ to 10.0 MHZ.  m. Revies of stored ultrasound images.  n. User adjustable colorigation mass gain setting colour Doppler  Angle Correction & other important parameters with live/frozen/archived images/loops  7. Software driven backlit & illuminated digital touch panel assignable rotary knobs & keys for easy mode & setting changes.  8. System integrated key board for easy patient data annotations  & report entries.  9. Should have a Display of single dual or Quad images side by side.  10. System should have a programmable architecture data proceesing of phase amplitude & frequency.  11. Images should be stored & analysed with true frame rates,  Extensive post processing remeasurement  analysis generation of new reports, CD/DVD & USB flash card drive should be avalaible.  12. Should have a digital stress echo pakage of acquiring & display of images.  o. Both pharmacological & Exercise stress exam capabilities.  p.Poosibility to modify & create protocol templates.  q.Image Acquigition review wall motion abnormalities & its reporting.   1. Digital Sign Replay, allowing to store & Repaly ultrasound   images including 2D, colour, Colour  angio, oppler. The cine repaly should allow to user to change  gain contrast sweep speed, base line  etc.Image parameters. | 1 | | MED15 | **3 channel ECG** | |  | | --- | | 4” Inbuilt printer | | 12 Lead Simultaneous Acquisition | | Leads Off Indication | | Name / Id label on printout | | Printer Status | | Internal SMPS | | Last print memory | | HR printout | | ECG Print style = 3 leads + long lead | | Axis , Interval printout | | Defib. and Cautery protection as per standards | | Li ion Battery with backup of more than 50 ECG’s | | 15 | | MED16 | **Pulse oximeter with nibp:** | A portable and light weight NIBP/Spo2 monitor with  plethysmographic waveform display.  **Features include:**          High resolution graphic LCD with backlit with a  plethysmographic display  Display of plethysmograph with numerics of %O2, Pulse Rate,  Systolic, Diastolic & Mean BP          Easy menu driven operation          Programmable audiovisual alarms  Trend – 24 hour SPO2 / 100 NIBP readings  Mains and battery operated  **Specifications**  **Electrical:**  Power supply: 230V AC / 50Hz  Power Consumption: 3 W  Inbuilt battery: NimH 7.2V / 1600 mAH  Operating time: >3 Hrs  **Spo2(NELLCOR):**  SpO2 range: 40 -100%  SpO2 accuracy: ± 2% for 70-100 / ± 3% for 40 -69  Pulse Rate range: 30 -240 BPM  Pulse Rate accuracy: ± 2 BPM  Messages: Pulse Search  Check sensor  No Finger in probe  Low battery  Alarms SpO2: High / Low 40 – 100%  Alarm Pulse Rate: High / Low 30 – 240 BPM  **NIBP:**  Technique used: Oscillometric measurement  Operation modes: Auto/Stat/Manual  Patient type: Adult/Pediatric/Infant/Neonate  Cuff pressure display: 0 – 300 mmHg  Systolic BP range: 30 – 245 mmHg  Diastolic BP range: 25 – 195 mmHg  Mean BP range: 50 – 215 mmHg  NIBP accuracy: +/- 3 mmHg  Cuff deflation: Automatic  **Physical:**  Weight: < 2 kgs  Dimensions: 198(L) \* 132(W) \* 178(H)  Display type: High resolution Liquid Crystal Display | 3 | | MED17 | **Tread mill Stress test Data acquisition unit** | |  | | --- | | Treadmill should be operating automically with the help of computer. | | Treadmill interface to the computer should be RS 232. | | Treadmill should operate on mains 230V 50Hz 12 Amp. | |         Tread mill should operate on 15 0 C to 48 0C & Humidity should be 30 – 90 %. | | Treadmill walking area should be at least Width 500mm, length 1400 mm. | | Treadmill speed control should be - Variable1.7 to 16 Miles/Hr. | | Treadmill elevation control should be – variable 0 to 22%. | | Treadmill should take patient load up to 150 kgs. | | Tread mill should work on AC drives. | | Tread mill should immediately stop with the help of emergency switch. | |         Data acquisition unit consist of battery operated wireless transmitter | |         Data acquisition unit should be very small, less than 150 g | |         Data acquisition unit should acquire all 12 lead simultaneously & real time. | |         Transmitter should amplify & digitizes the ECG signal with out noise. | |   Receiver unit should be USB powered & compatible with USB port. | | Sampling Rate should be 500 samples per sec per channel. | | Signal frequency response should be 0.05 Hz to 100 Hz. | |         Data acquisition unit should have built in defibrillation and high frequency protection. | | No of electrodes should be 10 Nos. | | Patient Leakage current should be less than 10 micro Amps. | | Required Teflon coated light weight button type patient cable. | | Unit should work on rechargeable. | | Require battery charging indicator. | | Unit should work 10 to 12 Hr on fully charge battery. | | Communication distance minimum 4Meters in single room | | Required Trans receive Indicator | | **Software** | | Facility to work software on Microsoft Windows platform. | | Facility to view 12 lead simultaneous, real-time raw ECG. | | Facility to View online 12 Lead running raw ECG & current  12 lead avg. complex with online automatic  calculation of ST level, ST slope, & also to view automatic  display of zoom lead with max ST depression  in single screen. | | Facility to view on line zoom lead resting ECG complex is super  imposed by current ECG, complex with  on line dynamic repositioning of all calipers like isoelectric, J Jn  & ST point. | | Facility to view on line, HR, bar graph for HR, % HR achieved,  Target HR & 85% of Target HR. | | Facility to view on line display of Name of protocol, Stage, TM  Grade, TM speed, current stage time,  total test time & B.P Systolic /diastolic & BMI. | | Facility to give trial to the patient before starting the exercise.  l worm up stage) | | Facility to hold & release the stage at any point of time during  exercise. | | Facility to relearn 12 lead AVG ECG complex during the test. | | Facility to view & print online METS. | | Facility to view on line Running lead display of 12 X 1 & 6 X 2  raw ECG with bar graph of ST level  for all 12 lead | | Facility to use muscle tremor filter, Base line filter, Hum filter,  for smooth ECG waveform. | | Facility to change ECG Gain 5mm/mv, 10mm/mv, & 20mm/mv | | Facility to selectable any lead as a rhythm lead. | | Facility to store 100 no. Patient data | | Facility to store beat to beat data of whole test in the form of Raw  ECG & Median ECG | | Facility to use automatic Re run of whole test. | | Facility to use automatic Re analysis of whole test. | | Facility to select standard protocol like Bruce, Modified Bruce,  Modified Balke Naughton , User’s  define protocol & protocol builder. | | It should print on A4 size paper, with or without grid, only  Landscape format. | | Facility to print on DeskJet as well as laser jet printer | | Facility to take automatic printout, on line as well as off line of  Raw, median ECG & Mix ECG report. | | Facility to print full report with single button. | | Facility to print & view online 12 lead Raw ECG as well as  median ECG of any instant of test. | | Facility to print & view Avg.ECG comparison report – compare  with supine stage minute wise, stage wise. | |         Facility to print & view of summary report & Tabular  summary of ST measurements. | |         Facility to print & view of trend report, with trend of BP,  TM Grade, speed, RPP, METS, & ST level  ST slope of all 12 lead in one page. | | Facility to print & view full discloser report (compress) ECG  of whole test. | | 2 | | MED18 | **PC based ECG Machine** | |  | | --- | | **12 channel pc based ecg m/c** | |  | | 12 lead simultaneous acquisition | | Digital filters and baseline control | | Configurable printing format | | Automatic measurements of axis, amplitude & intervals | | Unlimited data storage, review & printing | | Long term monitoring mode | | Adjustable sweep speed & gain | | Facility to store and print immediate & offline comments | | Selectable Rhythm lead | | Automatic Heart Rate calculation | | 1 | | MED19 | **Mentamove (R)** | |  | | --- | | Brain efficiency training | | Techical specifications | | EMG sensitivity: <2 V | | Offset value: 2-2000 V | | EMG reading: Logarithmic, 5 segments histogram | | Impedance: 0.1-20k (EMG) | | Output signal: 0-40mA, +/-0.1mA at 2.5k | | 0.66 mA / unit intensity, no part of direct furrent | | Duration of the impulse: 320 s, +/-5% | | Type of current: Amplitude modulated medium frequency | | Carrier frequency: 3115 Hz | | Modulation frequencty: 33Hz | | Cycle duratiobn of the stimulus: 30ms | | Duration of the stimulation : 2-60s | | Duration of the break: 2-60s | | Rise time: 2s | | Correction factor : 2-20% (automatic offset adjustment) | | Wave form: Sine wave biphasic, amplitude modulated | | Micro proocessor : Two Micro processors with mdoern  technology | | Data Storage: 8 Patients X 100 sessions | | Display: LCD Display | | Dimensions : 231x99x55 mm | | Weight: 500g (including batteries) | | Batteries : 4x1.2 V, rechargeble NIMH | | Voltage : 4 Volt DC | | Classificatoin : Type BF, internal power supply ,Class Iia; | | Continuous operation, protection against lubricatiobn | | Electrode wire : Fixed at the instrument , three pole | | External charger : Protection class II, current consumption  230 V | | 50 H z/26 mA/6VA | | PN: Z910H0004215 | | 1 | | MED20 | **Pulse oxymeter** | |  |  | | --- | --- | | **Product description:**  Pulse oximeters should have rigorous environmental/  mechanical stress testing such as rough handling and free fall  drops, exposure to extreme temperatures and humidity, chemical  and cleaning solvent resistance tests. | | | **Features** | | |  |  | |  | 110/220 volt compatible 60/50 Hz & Excellent condition | | **Product specifications:** | | |  | More stable SpO2 values providing fever, false alarms | |  | Rapidly locate the sensor site with the  strongest pulse signal | |  | High visibility for quick decisions-backlit, always on screen illuminates large numbers. | |  | Full compatibility with all patient types and clinical situations | |  | 24 hrs trend of memory. | |  | TeleOximetry PC Access software, which allows the SpO2 trend data to be download  and previewed on PC | | **Dimensions:** |  | |  | Weight 6.5 to 7 16 | | **Alarm:** |  | |  | Low/High SpO2 | |  | Low/High pulse | | **Display:** |  | |  | Digital: LED | |  | Waveform: Backlit LCD | | **Clock:** |  | |  | 24 hrs clock | | **Electrical:** |  | |  | Battery B volt, 3.2 ampre-hours sealed  lead-acid | |  | Charge time: 8 hours | |  | Operational time:5.5 hrs-6 hoov | |  | Power consumption:15 watt-20 watt | |  | Input voltage:100 to 240 V, 50/60 Hz | | **The following items included:** | | |  | Built in Printer should have | |  | Power Cable should have | |  | Internal Battery should have | |  | Adult reusable finger sensor should have | | **Following transducers must be provided with the unit:** | | |  | Convex Probe with triple frequencies &  THI frequencies should be available. | |  | Linear Probe for Peripheral Vascular with  Fundamental frequencies should be  available. | |  | Phased Array Sector Probe with  fundamental frequencies & THI  frequencies should be available, | | **Following facilities should be provided along with the equipment:** | | |  | Suitable stabilizer | |  | Thermal Printer | | **Following facilities should be available:** | | |  | HPRF | |  | REAL TIME 3D | |  | PANOAMIC VIEW | |  | AUTOMATIC CARDIAC FLOW  MEASURMENT (ACM) | | 6 | | MED21 | **Oxygen Concentrator** | * + Oxygen Flow Rate : 0-8 LPM   + Output Oxygen Pressure : 18Psi-20Psi   + Oxygen Purity : 90% to 95% at 0-8LPM   + Weight Only 23 Kg.-25 Kg.   + Quiet Operation Sound Level < 47dBA   + Low Power Consumption : Only 650 W   Oxygen Monitoring System (OMS) | 6 | | MED22 | **Nebuliser** | * + Ultra Light Only 1.4 Kg. -1.5 Kg.   + Air Flow Rate 10 LMP – 12 LMP   + Output Air Pressure : 30 Psi – 35 Psi   + Low Power Consumption Only 60 W   + Rise Time Range : 100 to 600 MS adjustable   + Durable Body : ABS injection moulded body. | 6 | | MED23 | **Bilevel CPAP Ventilator** | * + Ventilation Modes : Spontaneous/ Spontaneous-Time/ CPAP   + IPAP : 4 to 20/25/33 CmH2O   + EPAP : 4 to 15/20/25 CmH2O   + Leak detection & Power failure alarm   + Rise Time Range : 100 to 600 MS adjustable   + Power Supply : 110 VAC to 240 VAC   + Frequency Setting : 5 to 50 BPM   + APNEA Backup | 2 | | MED24 | **3D Echo Cardiography and Color Doppler system** | Should have various scanning methods:   1. Electronic Linear 2. Electronic Convex 3. Phased Array Sector    * Mechanical/annular Array upgradeable  |  | | --- | | The unit should be fully digital with at least 256 processing channels and DICOM compatible. | | 15” High Resolution LCD Monitor with Flexible Support Arm. | | The unit should have Pulse Wave Doppler. Comeliness ware Doppler | | At least 3 active transducer ports and transducer holder. | | All probes should be of Super High Density (for SHD scanning) & WITH DIGITAL Echo Boosters. | | Minimum 3 electronic switch able independent B-mode frequently selection should be possible with all probes, All probes should be of Ultra Broad Band  Technology. | | The unit must have Tissue Harmonic Imaging as a standard package with 2 switch able independent  THI frequencies with Convex Probe only. | | Very High System Dynamic Range- upto 170dB or more should be available. | | Frame Rate should be 300 or more frames per second (fps) | | The unit should have simultaneous real time triples mode facility (b-mode/Color mode/ Doppler tracings. | | Viewing of Dual Color Images (B/Color & B/Color) together should be possible in Real Time land post Freeze modes. | | Simultaneous B+BDF (B/Color & B/W simultaneous) split screen Real Time imaging should be possible. | | 2-3 Port should be available (upto 2 ports for Computer interface and Data Transfer). | | Pre and Post Freeze ROI Digital Pan/Zoom upto 12x times should be available (read & write zoom) along with scrolling in all directions should be possible. | | The unit must have cine loop facility for black & white and color images. | | The unit should have B- mode Linear Image Steering. | | Color Box Liner Steering should be available in all Color modes- Upto +/-30degrees. | | Digital Motion Artifact Eliminator should be available. | | Minimum detectable flow velocity should be upto 0.6cm/sec. | | CD/DVD Drive-Built in with the system for storing of images. | | Dual Hard Disk Storage facility- Built in with the system- each HDD at least 80GB or more. | | USB ports for providing Data Transfer, Image/Data printer connectivity. | | Automatic adjustment of Color Scale and Doppler range should be available in real time along with baseline shift. | | Memory stick/pen drive facility for storing and recalling of B/W and Color Doppler images. | | Workflow Editor for Carrying out routine exams by executing freely programmable protocols simply with the touch of a button. It also combines multiple operations in to single Keystrokes. | | Thumbnail view of images stored in the HDD simultaneously while scanning should be | |  | | 1 | | MED25 | **Graphic  Waveform** | Pressure-Time curve/flow-time curve/volume-time curve  Pressure-Volume loop curve/flow-volume loop curve   |  |  |  | | --- | --- | --- | | **Alarm** | | | | High pressure | | 5-120cm H20 | | Low pressure | | 0-50cmH20 | | High tidal volume | | 20-2500ml, Off | | Low tidal volume | | 0-2500ml | | Low minute volume | | 0-30lpm | | High respiration rate | | 20bpm ˜120bpm | | Apnea | | Off, 10-60 sec | | Power loss | | AC/DC power  loss | | Low Wall air/O2 pressure | | Below 35 psi  pressure | | Fio2 | | 21-100% | | Obnstructed tube | | +8ipm | | Airway leak | | -8ipm | | Vent in –operation | |  | | Alarm on/Off: all parameters on/off selective independently | | | | Power supply inputs | | | | 100-230 VAC. 50/60 Hz (free voltage) | | | | 12 VDC 7A External power input | | | | 12VDC 7A internal battery operting 120 minutes depends on the  ventilation conditions | | | | Power Consumption: 84 w( main unit Only) | | | | **Dimesion/Weight** | | | | Main unit | 36-35.25 ˜50,  40-50 cm | | | Display monitor | 31-35,28-30 cm | | | Cart | 48-50/57-60/  77-80 cm | | | **Connectors** | | | | Aspiratory limb connector: ISO22mm conical male  Expiratory limb connector: ISO 22mm conical male  Air and Oxygen inlets: DISS male/female | | | | **Environmental** | | | | Operating temperature | 10-40˚C (50-104T) | | | Storage temperature | -10-70˚C(14˜158˚F) | | | Relative humidity | 10-85% (storage) | | | **Pneumatic Gas supply** | | | | Oxygen/Air Intel supply Pressure | 2.56-7.3kg/cm3  /2.4-6.9bar/35-  90psl | | | **Pneumatic Gas supply** | | | | Cart /Trolly | | | | Exhalation | | | | Reusable adult patient circuif | | | | Patient circuit support arm | | | | Test lung | | | | Air compressor | | | | Humidifier with chamber | | | | 1 | | MED26 | **Body plethysmograph system with diffusion study** | 1. Fully automatic computerized unit for the   measurement of following parameters:   * Spirometry & Flow Volume Parameters. * Maximum Voluntary Ventilation (MVV), * Lung Volumes & capacities including RV & TLC. * Airway Resistance & conductance – Raw (Insp. Exp. tot), SRaw, Gaw, SGaw, * Single Breath Diffusion Capacity of Lungs (DLCO-He) & Intra Breath. * Lung compliance (Static & Dynamic), * MIP/MEP for Reapiratory Muscle Strength, * Pre & Post Bronchodilator tests,   Should Meet Criteria for ATS Standards.  Automatic DTPS correction.  Should meet all International Safety Standards.  Should have predicted equations.  2. Body Plethysmograph System with Box (size > 900L or more) to provide sufficient space to patient, With Visibility from all directions.  3. Intercom System to be provided for Communication with patient while sitting inside the Box.  4. Should be supplied with PFT Software Window XP based.  5. Manufacturer should have a local office with complete technical backup  capability (preferably) |  | | MED27 | **Polysomnography System For Sleep Disorders Study** | Polysomnography system that records and displays physiological parameters. Should have following Channels:-  o EEG  o ECG  o Sp02  o Snoring detection  o Chin and leg EMG  o Pulse Rate.  o Respiratory Effort,  o CPAP Pressure  - Should have adjustable gain and filters.  - Should have facility of on line scoring of events during the recording  - Should have LAN interface for Data communication to PC.  -Should have automatic Sleep staging with Manual Over-ride, Respiratory  Analysis /PLM's Analysis, Neurological events.  - Should be supplied with fully synchronized Digital Video.  - System should have option of scoring sleep and other events as per AASM  guidelines  - Manufacturer should have a local office with complete technical backup  capability (preferably) |  | | MED28 | **Suction Machine** | * Should be based on diaphragm technology. * Vacuum should be more than – 60 mmHg with flow rate of at least 8 Ltr. per minute or more. * Should be made for continuous purpose. * Should be operated from mains or battery mode (over 100 minutes). * Should have optical and acoustic warming signal for battery charge. * Jar capacity should have minimum 2 Ltrs. (Non breakable).   Should have provision for trolley |  | | MED29 | **Steel Cot** | Steel cot drawing code NO. 2K9-E-30  Size : 1910 x 1880 x 950 x 450 |  | | MED30 | **Nebulizer** | 1. ISI mark` 2. Easy to operate 3. Compact 4. Good battery backup |  |   MICROBIOLOGY DEPARTMENT | | | |
| 1. MIC1 | Biological Safety Cabinet | Modular construction, combining aesthetic appeal with functional utility and efficiency designed to meet class 100 (II-B) requirements and per US Federal Standard 209 E, with in work zone.  Ideal for Microbiological manipulations, work with bioassays sterility testing & research work, vial filling etc. provides a comfortable ‘sit down ’ working position for the operators.  Construction :- Full body including top made us of S.S., complete with transparent front door, static pressure, inclined manometer, built in UV germicidal light, cock for gas, air or vacuum line.  side panels of thick transparent plexiglass .  Air flow and Filtration :- Laminar Flow principle involves double filtration of air. Atmospheric air is drawn through highly effective HEPA (High Efficiency Particular Air) filters having efficiency rating as high as 99.99% with hot DOP, thus retaining airborne particles of size 0.3 micron and larger. Double filtered air blows in laminar flow through the work tail at designed velocity of 90 ft. min.± 20%.  Blower Motor Assembly :- duly balanced, direct drive motor blower units sized to provide adequate air flow volume over the entire surface of HEPA filter. Fitted with reputed make motor and operates with minimum noise level i.e. lower than 65 db scale and Vibration less than 2.5 um.  Lighting :- work area properly illuminated by diffused, glare free fluorescent light providing 800 LUX.  Power Requirement :- 230 V. 1 phase, 50 Hz, ac supply.  Working Area 4’x2’x2’  Size of HEPA filter 4’x2’x2’  No. of HEPA filter 1  No. of Pre filter 2  Illumination 2x20W   * Product must be CE marked. * Recessed knee space should be provided.   Manufacturer must be ISO certified | 15 |
| 1. MIC2 | Real Time PCR | Licensed for Clinical & Research application  The real time PCR must have at least 16 to 96 samples in one run  CE/IVD/FDA Compliant  Capable to excite and detect 4 or more spectral bands (4 or more color multiplexing system)  Detectors PMT, Silicon photodiodes  The instrument must be factory calibrated to optimally detect the following 4 fluorescent dyes simultaneously; FAM, Cy3, Texas Red, Cy5 or FAM, TET, Texas Red, Cy5, for either Taqman, Beacon, Scorpion, Amplifluor fluorescent probes. Additionally, the instrument must be capable of melt-curve analysis when SYBR green chemistries are being employed.  Heating Ramp Rates 6 - 10 Deg C  Company should provide following reagents  100 HIV real time PCR test  100 HBV real time PCR test  100 HCV real time PCR test  100 MTB real time PCR test | 02 |
| 1. MIC3 | PCR turn key set up | * Company should offer complete turnkey solution for PCR setup including Instruments, reagents and lab designing. * Should also provide reagents, should cover; Virology/bacteriology/oncology/human genetics/HLA kits/and other PCR based tests * Package should include: * Instruments: * Automated Extraction System: * Magnetic Beads based System Capable of handling 12 or more samples * Should be fully automated with onboard lysing & with prefilled cartridge Should have UV lamp to avoid cross contamination * System should have extraction kits for Viral DNA, Blood DNA, Bacterial DNA & total RNA Should provide along with 200 test each for Viral DNA/RNA & blood/Bacterial DNA * Purification time: 30 minutes for DNA and 30-60 minutes for RNA * Handling volume = 25 – 1000 µL; Sample Volume = 100 – 1000 µL * Spectrophotometer (DNA/RNA) : * Sample Volume: 0.3 µl -2.5 µl * Detects Limit: 2ng/ul-18,750ng/ul(dsDNA) * Wavelength range: 190 – 1,100 nm * Measure time for 3.5 seconds * Wavelength accuracy better than 5 nm * Lamp Xenon flash lamp * Preferable to have on board dilution factors * Thermal Cycler with external PC * Temp. Range:    4-99 deg C Temp. Uniformity: better than +/- 0.4 deg C  Temp. Range for Gradient range: 30-90 deg C * With 96 Well Aluminium block  with Ramp Rate: Heating: 3.5ºC Cooling: 2.5ºC * Program Capacity: More than 1000 * Gel Doc System   with UV Transilluminator & WL  16bit CMOS /CCD camera with Image resolution: 1280 x 1024 pixels  Linear dynamic range: 0 to 3.8 orders of magnitude  Dark Room Closed Cabinet, preventing UV exposure to the user with Illumination cut-off on opening the doors  Interchangeble Drawers UV Drawer (21x26 cm  With Gel Capture & Analysis Software  Horizontal Electrophoresis  With min 10 x 15cms  With removable casting tray and 2x1 mm thick, 16 samples comb  With suitable Power Supply  Real Time PCR system  Licensed for Clinical & Research application  The real time PCR must have at least 16 to 96 samples in one run  CE/IVD/FDA Compliant  Capable to excite and detect 4 or more spectral bands (4 or more color multiplexing system)  Detectors PMT, Silicon photodiodes  The instrument must be factory calibrated to optimally detect the following 4 fluorescent dyes simultaneously; FAM, Cy3, Texas Red, Cy5 or FAM, TET, Texas Red, Cy5, for either Taqman, Beacon, Scorpion, Amplifluor fluorescent probes. Additionally, the instrument must be capable of melt-curve analysis when SYBR green chemistries are being employed.  Heating Ramp Rates 6 - 10 Deg C  Company should provide following reagents  100 HIV real time PCR test  100 HBV real time PCR test  100 HCV real time PCR test  100 MTB real time PCR test  Other Accessories supplied by vendors:   * Biosafety Cabinet – 1 Nos,Laminar air flow – 1 Nos,Vortexor - 2 Nos * Micropipette (0.5-10ul, 10-200ul, 100-1000ul) – 3 sets,Tips (100 tips/box) * Deep Freezer, -20 deg C,Dry Block,Desktop Computer – 3 Nos * Printer – 1 Nos , Microwave Oven – 1 Nos, Coolant – 1 Nos,Spinner – 1 Nos * Incubator shaker – 1 Nos | 02 |
| 1. MIC4 | Fully automated blood culture system | Fully automated technology with ability to take patient I.D. by barcode.  Should process blood samples, other sterile body fluids both aerobic and anaerobic systems.  Sample capacity more than 200 samples.  Besides phylogenic, system should have facility of detection for yeasts and fastidious organisms  Should include pediatric and adult samples.  Media in bottles should have agents for neutralization of antibiotics.  Continuous agitation system.  Analyze each sample separately as per ID, time of entry, incubation period, growth etc.  Should have built in calibration check and alarms/reminder for the same.  Decontamination facility.  High sensitivity and specificity with continuous monitoring of all samples.  Minimum 3 days stand alone data storage capabiligy.  All media and consumables for setting up and standardization should be provided free of cost  Additional identifiction and sensitivity (with wide range of antibiotics) to be provided with the equipment.  The unit shall be capable of being stored continuously in ambient temperature of 0-50 deg C and relative humidity of 15-90%  The unit shall be capable of operating continuously in ambient temperature of 10-40 deb C and relative humidity of 15-90%  Power input to be 220-240VAC, 50Hz fitted with Indian plug,  Reset tabke iver cyrrebt breaker  Suitable voltage corrector/stabilizer  Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system  Attach original manufactures produc catalogue and specification sheet photocopy/Computer print and accepted. All techni al data to be supported with original product data sheet . Please quote page number on compliance sheet as well on technical bid corresponding to technical specifications.  Should be FDA or CE approved or ISI marked product.  Should be compliant to ISO 13485 : Quality systems-Medical devices particular requirements for the application of ISO 9001 applicable to manufactures and | 02 |
| 1. MIC5 | Fluorescent Microscope | Optical System: Infinity optical system F – 200 mm  Anti Fungus Wide base with extra lateral optical system  Eyepiece: Wide field high eye point Eyepleces 10x/22 mm with diopter adjustment An Rubber Eyecups (Pair).  Plan Achromat Objective PL 4X/0.15  Plan Achromat Objective PL 10X/0.35  Plan Achromat Objective PL 40X/0.60  Plan Achromat Objective PL 100X/0.70  Comfortable user position  FLUORESCENCE ATTACHMENT  Epi – Fluorescence attachment with Filter for Four wave bands  Mercury Lamp 100 w  Lamp house HBO 100 w  FILTER FOR FLUORESCENCE MICROSCOPY   1. DAPI, Exciter 330-380, DM 400, BA 420 (UV) 2. FITC, Exciter 450-490, DM505, BA 520 (Blue) 3. TRITC, [Rhoda mine] Exciter 510-560, DM 575, Ba590 (Green) | 03 |
| 1. MIC6 | Trinocular Microscope | System complete with illumination system is required.  Body -Trinocular, sturdy, stable base body with focus adjustment control.  Eyepiece- Trinocular high quality, achromatic, widefield, 10x with inbuilt pointer. The eyepieces should be aplanatic and have a minimum field number of 18. Diopter adjustment must be present.  Objective - Three objectives 5x, 10x, 40x, 100x  All Objectives should be Spring loaded type, wide field, achromatic and parfocal. 10x and 40x objectives should have numerical apertures of 0.25 and 0.65 respectively.  100x should have numerical aperture of and should be of oil immersion type.  Nose piece - Revolving nose piece to accommodate of three objectives with click stops. It should be provided with ribbed grip for easy rotation mounted on a precision ball bearing mechanism.  Stage - Uniformly horizontal mechanical stage with fine vernier graduations. Should be provided with slide holder. It should be designed with convenient sub stage vertical coaxial adjustment for slide manipulation.  Stage Condenser - Abbetype condenser, Numerical apperature 1.25 focusable with rack and pinion arrangement incorporating as aspherical lens and an irisdiaphragm.  Sub-stage illuminator - The system should have build in variable light source 20 W, 6 V halogen lamp.  All optical parts including objectives, eye pieces and prism should have anti-reflective coating and antifungal property  2. All metallic part should be corrosion-proof, acid-proof and stain-proof.  Working manual should be provided with each microscope.  One no. of anti static cleaning brush should be provided with each Microscope for cleaning purpose. | 04 |
| 1. MIC7 | Horizontal Laminar flow | Size: 4’ x 2’ x 2’ size of Hepa filter —4’ x 2’ x 6’  - Stainless steel top, transparent front door (5mm size)  - Unit fitted with prefilter & one 2 x 40 W HEPA filter (0.03 Micron size)  - Fluorescent illumination.  - Built in germicidal UV light  - Cock for gas  - Height of working table should be comfortable In ‘Sit down’ working position for the operator.\  - Recessed knee space | 06 |
| 1. MIC8 | Electrophoresis complete set | Mini-plus horizontal gel unit with removable casting tray and 2 x 1 mm thick, 16- sample combs and coloured loading strips  Technical Specification  Unit Dimensions (Wx L x H) - 16.5 x 23 x 6.5 cm  Gel Dimension (W x L) - 10 x 11.5 cm  Buffer Volume - 450 ml  Maximum Sample Capacity - 80  Combs - 2  Comb Thickness - 1, 1.5 or 2 mm  Comb Throughput - 4 to 20 samples  Comb Slots - 4  Migration Distance Between Comb slots - 2.5 cm  Recommended Running Voltage - 75 to 125 V  Power Output Connectors (diameter) - Shrouded, 4mm | 05 |
| 1. MIC9 | Vertical slab gel electro phoresis dimensi ons | * 25 cm (L) x19cm(B)x20cm(H) * No. of samples:13 * Buffer volume:300 ml (including upper and lower tanks)   Complete unit consists of   * Basic unit with platinum electrode. * Glass plates notched & rectangular to run 16x14cm gel (2sets) * 13-well polished Teflon comb with thickness of 1 mm and 1.5mm( 1 no. each) ( Well width=6mm , Interspace=4 mm) * Teflon spacers with thickness of 1 mm & 1.5 mm (3 nos. each) * Gel casting stand (1 no.) * Supporting clamp (1no.) * Screws (12no.) and metal clips (4nos.) * Power cord with lid (1 no. each) * User mannual | 01 |
| 1. MIC10 | Carbon dioxide incubator | * Inner chamber made of stainless steel and outer body of M/steel painted with white stoving enamel. * Full view thick glass door tightly clamped to the gasket making the chamber leak proof * An inlet nozzle at the real of the control provided for admission of Co2 or air/ Co2 mixtures. * Temp range from 5 degree C above ambient to 60 degree C ± 0.5 degree Celsius with digital temp indicator-cum controller (thermostat) * Supplied complete with stainless steel trays (02) inlet 1 outlet of air/gas, cord and phy. * To work on 220/240V, single phase, A.C. Supply * Chamber size(WXHXD) 450x700x450mm | 04 |
| 1. MIC11 | Electronic top loading Balance | Capacity : 220gm  Accuracy : 0.001g  Responsibility (approx):</=0.001gms.  Linearity : +/-0.003gms.  Response Time (approx): 1.0-1.2secs.  Ambient Temp : 5-40Deg.C  Temp coefficient of sensitivity (10-35Deg.C):+/-5ppm/Deg.(10-30deg.C)  Pan Size : 100x100mm  Dimensions (approx): 170Wx240Dx75Hmm  Weight (approx.): 2.2kgs.  Power Req.: AC adapter, 80V-264V,+/-10%,50/60Hz  Std. accessories : Simple windbreak, Protective in – Use cover  Display :LCD | 09 |
| 1. MIC12 | BOD Incubator | * robust construction. Outer cabinet made of m.s. sheet, duly pre treated & finished with epoxy powder coated paint for lasting finish. * Inner chamber made of highly polished stainless steel. It has provision for allowing wide range of shelf positions & spacings . * Stainless steel trays provided. Chamber is duly insulated to minimize heat loss. Two doors are provided. * Outer door insulated, fitted with magnetic gasket for air tight closing for prevention of temperature loss. Door provided with lock and key. Inner door made of unbreakable transparent acrylic glass empanelled in aluminum door frame for inspecting the specimens inside chamber, without opening the door and with minimum temperature loss. * Temperature control : excellent and reliable solid state temperature controller cum indicator digital display, range from 5ºC to 50ºC ± 0.5ºC hermetically sealed, high performance compressor works on environment friendly and CFC free refrigerant and PUF insulated to lower the inside chamber temperature. * Air circulated by a double shaft self – cooled, blower to keep the temp. uniform throughout the inner chamber. A safety thermostat is provided, which switches off the heaters in the event of failure of the normal temp. control system to protect the specimens from excessive heat. Also fitted with a door operated lamp for illumination inside the chamber. Conceded aesthetic design * castor wheels provided at bottom for easy mobility. * Temperature setting fine and coarse knobs to set any desired temp. a digital voltmeter is to be provided on the panel to read the incoming voltage. * BOD INCUBATOR switches from heating to cooling and vice versa irrespective of the ambient temperature, working without any user intervention. * 3 shelves of stainless steel as per the chamber, cord and plug. To work on 220-240 volts, single phase, 50Hz, AC supply.   The unit to be supplied with suitable automatic voltage stabilizer. | 07 |
| 1. MIC13 | Deep Freezer - | For quick freezing and storing of Blood Components, Serum, Vaccines, Biological and Medical Specimens. Clinical Samples etc., at low temperatures. with superior Insulation and specially designed refrigeration system. Constructed of double walls exterior is of sheet steel & interior of stainless steel having PUF insulation. Technical Data:  Vertical Freezers:   |  |  |  |  | | --- | --- | --- | --- | | Vol. | Inner Dim | External Dim | Min Temp | | 170 | 50x43x85 | 63x58x138 | -20°C |   Supply: 230 V Single Phase 50 Hz AC with built in with Digital Temperature Indicator cum Controller with audio visual alarm.  Product must be CE marked | 05 |
| Same as above specification Temp. -70 to -800c | 03 |
| 1. MIC14 | ELISA plate reader – | * Extensive On-board Data Analysis comparable to PC Software. * Includes Curve-fitting, formulas, Transformations and Control / Assay Validation. * Stores up to 75 Assay definitions in memory. * Saves 20 Microplate Test Results in memory. * Unique Assay Definition capability via a new Windows program. * Reads 24, 48, or 96-well microplates. * 384-well plate capability. * On-board Diagnostic Testing of Optical and Performance Specifications. * Low-cost, High-value microplate reader   TECHNICAL SPECIFICATIONS:  Microplates :   Microplates with 28, 48 and 96-wells read  capability to read 384-wells. Speed : 30 seconds for 96 wells.  Absorbance : 0.000 to 3.000 Abs.  Resolution : 0.001 Abs.  Accuracy : +/- 1% +/- 0.010 Abs from 0 to 2.000 Abs @ 405 nm.  +/- 3% +/- 0.010 Abs from 0 to 3.000 Abs @ 450 nm.  Wavelength Range   : 400-750 nm.  Wavelengths : 5 position wheel filter 405, 450, 490, and 630 nm as standard.  Linearity :   +/- 1% from 0 to 2.000 Abs @ 405 nm.  Repeatability : +/- 0.5% +/- 0.005 Abs from 0 to 2.000 Abs @ 405 nm.  Display : 2 x 24 LCD display.  Interface : RS 232 bidirectional serial interface Parallel Centronics  printer interface. Power Supply : 90-250 VAC, with External transformer module.  Dimensions : 16.5" D x 15" W x 7" H 41.9 cm x 38.1 cm x 17.8 cm. Weight : 25 lbs. / 11.4 kg. | 12 |
| 1. MIC15 | ELISA washer - | The ELISA washer micro plate washer for Enzyme Immunoassays, has been designed to meet the working and requirements of today’s laboratory, It is fully programmable and allows the user to  run set assays at the touch of a button.  It is reliable, compact and self contained, offering - Waste overfill protection, silent operation and minimal maintenance.  The ELISA washer is capable of washing all types and profiles of micro plates wells, with automatic plate calibration, Either 8 to 12 channel manifolds can be easily fitted to allow the washing of single and multiple strips or a complete 96 well plate.  TECHNICAL SPECIFICATIONS  Performance  Resolution : 50µl  Accuracy @ 300 μl : + 10 % well to well  Precision (repeatability)@ 300µl : 5% CV or better  Processing time (full plate) : 350μl x 3 cycles x 8 port: 180 sec.  Residual volume : < 5µl per well  Maximum soak time : 250 seconds  Wash Heads : Interchangeable 8 or 12 channel (option)  Programs in memory : 7  Liquid contact materials : Glass, Polypropylene,  Polythylene, Stainless Steel,  Tygon, Teflon, Derlin and Nylon.  Recommended Decontaminants : Decon, Virkon or 5% Sodium  Hypochlorite solution  mixed with deionized water. | 12 |
| 1. MIC16 | Lyophilizer/ freeze drier | Laboratory type having capacity of at least 6 lit. cooling up to -53˚c with cfc free technology . Having pneumatic or hydraulic doors. Having vails of capacity 2 ml, 5 ml, 10 ml. with inner stainless steel jacket & thermo isolated. With cooling of at least 6 liters per day. Having rearrange able racks. | 01 |
| 1. MIC17 | Multipurpose pipette | 1. Rechargeable Battery operated multipurpose pipette & dispenser can also be used for reverse pipetting .  2. Having 5-6 Channels for dispensing with variable programming modes .  3. Having a display and batons to decrease or increase volume.  4. Preferably also have a manual mode.  5. Should have baton for tip removal.  6. Dispense volume preferably 0.5-100 micron. | 02 |
| 1. MIC18 | Centrifuge  machine :- | |  |  |  | | --- | --- | --- | | Max Speed | rpm | 15000 or more | | Max rcf | g | 7400 | | Max tube size | ml | 200 | | Max Capacity | ml | 1200 | | Width | mm | 425 | | Depth | mm | 460 | | Height | mm | 465 | | Connected load | KVA | 0.8 |   Supply 230 Volts Single Phase 50Hz. AC  The product must be CE marked | 01 |
| 1. MIC19 | Table Top research Centrifuge :- | The control panel is a separate unit compact and incorporating self illuminated start stop switches, dynamic brake, stepless speed regulator with zero start switch digital speed meter timer and digital temperature controller indicator.  Diaphragm & filter holder (complete set in thermocouple packing.) | 01 |
| 1. MIC20 | Table Top refrigerated centrifuge :- | For working with heat sensitive material. The control panel is a separate unit compact and incorporating self illuminated start stop switches, dynamic brake, step less speed regulator with zero start switch digital speed meter timer and digital temperature controller indicator.  TECHNICAL DATA   |  |  |  | | --- | --- | --- | | Max Speed | Rpm | 15000 or more | | Max ref | G | 7400 | | Max tube size | ml | 200 | | Max Capacity | ml | 1200 or higher | | Width | mm | 890 or more | | Depth | mm | 620 or more | | Height | mm | 625 or more | | Lowest Temp | ºC | -8 | | Connected load | KVA | 1.6 |   Supply 230 Volts Single Phase 50Hz. AC  The product must be CE marked | 04 |
| 1. MIC21 | Autoclave  (vertical) | Outer Chamber made up to stainless steel (SS)  S.S Lid Radial locking  Size (Diam X depth ) 450X750 mm  Low water cut off device.  Pressure Control  Works on 220 V AC | 07 |
| 1. MIC22 | Autoclave  (Horizontal) | Outer Chamber made up to stainless steel (SS)  S.S Lid Radial locking  Size (Diam X depth )  Low water cut off device.  Pressure Control  Works on 220 V AC | 02 |
| 1. MIC23 | Incubator | Temperature range upto 70oC thermostatically controlled. Three Side heating elements which are placed in ribs at the bottom and sides. Double walled Inner chamber made of S/Steel. Outer chamber of M.Steel duly painted with epoxy coating with synthetic rubber gasket on doors. Door has double glass windows to view samples, Built in horizontal ‘L’ shape thermometer and perforated adjustable shelves. To work on 220/240 V AC. Supplied with or without Air circulation fan.  Chamber Size: 450 x 450x450 mm, Trays: 18”x18”x18” (02)  With digital display of temperature and provision of fixing thermometer on the top. | 04 |
| 1. MIC24 | Dark ground illumination Microscope attachment | * Dark Filed central stop enables dark field observation at 4x through 40x when the attachment is mounted on the bright field * Condenser bottom section. * To fit In (compatible) with ordinary microscope. | 01 |
| 1. MIC25 | Shaker incubator  (for bacteriological research purposes) | 1. Chamber   (i) Volume: 10 Cubic Feet (± 10%) or approximately 260 Liters.  (ii) Internal Fluorescent Lighting.  (iii) Stainless Steel interior with Single Door. Door should be easily opened without excess support.  (iv) Tight seal when door is closed.  (v) View port or window on door preferred.  (vi) One or more access ports.  (vii) Germicidal mechanism to reduce bacterial load in the air is desirable.  (viii) Internal electric Outlet.  2. Control Panel, Refrigeration, Display with Temperature and rpm Control.  (i) Microprocessor based control with Digital LED Display of temperature, speed and alarms.  (ii) Temperature range: 4° to 50 °C, Calibrated, Temperature Accuracy & Control (± 0.1° C) at 25 °C.  (iii) Audible and visible alarms on temperature exceeding set temperature range.  (iv) Uniform temperature (± 0.5° C) control at all temperatures inside with the use of fans/ forced circulation.  (v) Programmable for time, temperature and rpm. Ability to program machine to stop shaking and cool samples to 4 °C after 24 Hrs.  (vi) Data logging features that allow interface with computers to analyze run parameters over time.  (vii) Precise regulation of Speed, Running Time, Incubation & Refrigeration over time.  3. Safety related features  (i) Machine stops shaking when out of balance or in case of excess vibration.  (ii) Machine stops if Door is opened during an experiment.  (iii) Machine stops if the High or low temperature limit is exceeded.  (iv) Automatic start at correct temperature and rpm after power failure.  (v) Indication/Alarm when machine needs urgent maintenance.  4. Shaking related features:  (i) Shaking speed: 40 – 500 rpm with control (± 5 rpm)). Shaking drive  should be smooth without jerking movements. Drive should be protected from liquid spills in case of breakage of flasks.  (ii) Shaking Load Capacity: At least upto 20 kg. Universal Platform with dimensions equal to or exceeding 70 X 40 cm and with the ability to hold 6 L flasks. Platform should be easily removable for cleaning.  (iii) Flask Holders: 8 X 2 Litre. 4 X 4 Litre, 2 X Test-Tube Rack.  (iv) Minimal External footprint. Shaker should be stackable.  (v) Low Energy Consumption, Quiet Operation. | 01 |
| 1. MIC26 | Spiral plating machine | 1. Able to plate on both 90mm 150mm plates. 2. Can accommodate more than one plate. 3. Dispensing volume variable from 20µl to 500 µl 4. Having counting range of 104 - 105 CFU/ ml at different dilutions. 5. Should have various deposition modes 6. Installation requirement is class I 7. Should be automatic 8. Standard plating time should be <10 sec/ plate 9. Storage temp. -10 to 550 C 10. Working temp. 20- 400 C 11. Electric supply 100- 240 V (50Hz) 12. Plating speed 1-3 rps 13. Syringe capacity up to 500 µl 14. Preferably one step cleaning 15. Able for inhouse validation 16. Having internal (preferable) or external vacuum source | 01 |
| 1. MIC27 | Distillation Plant steel | Double Stage. Automatic electrically heated all steel stand, plug and cord. (Electrical embedded heater distillation apparatus)- With auto cut device, capacity 5 litres | 03 |
| 1. MIC28 | Inspissator | -Double Walled  -Inner Tank and Outer chamber is made of Stainless Steel  -Insulation in between the outer body & stainless steel tank.  -Provided with jacket for sterilizing the media.  - Heat resistant Transparent Glass / Acrylic cover to see the samples.  -Tapered shelf for proper placement of sampling tubes.  -able to easy cleaning.  -Heating by immersion heaters.  Temperature range up to 100°C. (Accuracy ± 1°C)  -Operating Voltage: 220-240 Volts AC (50 Hz)  -Temperature Controlled by microprocessor based digital temperature indicator cum controller  - Tube capacity 100 | 04 |
| 1. MIC29 | Binocular Microscope | Microscope for bright field upgradable for digital imaging with ag treat- touchpoints treated to inhibit the growth of bacteria, Observation tube -45 0c viewing angle, ipd adjustment 50mm, -75mm, 360 0 rotation , eye piece 10x with eye guard, objectives tampe proof plan phase contrast objectives.  obj. hi plan 4 x /0.10 -/, 18  objective plan 10 x 0.25 -/, 12.1  objective plan 40 x /0.65 0.17 /, 0.36  objective plan 100x/1.25 oil -/, 0.1  Mechanical stage- mechanical stage with double plate flat top with stainless steel slide holder., condenser - condenser 0.90/1.25 oil for bf, ph and df with phase rings ph 1/2/3  Illumination -LED illumination provides cool white light with a life time of over 20 years of average use. 6000k temp, 25, 000 h life at full intensity, Focusing with coarse and fine focusing tension free., Digital camera attachment with trinocular version and led for teaching and training application also option of software for image analysis. Also option of built in micrometer scale. Computer connectivity with USB port. | 45 |
| 1. MIC30 | Sealing Machine for Blood Culture Bottle | Fully Automatic Vial Filling & Rubber Stoppering Machine, Automatic Screw Capping Machine, Rotary Bottle Washing Machine, Automatic Linear Bottle Washing, Filling & Capping Machine, Fully Automatic Form, Fill & Seal Machine for Liquid, Paste, Powder & Granules, Automatic Weight Metric (Load-cell Base) Pouch Packing Machine, Fully Automatic ROPP Cap Sealing Machine (Multi Head) | 02 |
| 1. MIC31 | HPLC –UV detection (Reverse phase) | Integrated Solvent Delivery Pump, Operating flow range :- 0.001 to 10.0 ml / min., Solvent delivery Module :- Ultra stable dual reciprocating parallel, piston,.Flow Accuracy :- < +/- 1%.,Operating Pressure :- 0- 6000 psi,Flow Path material :- SUS 316, PTFE, Sapphire, Zirconium.Semi Auto Prime/Purge,Plunger: zirconium,Check valve: cartridge type, Automatic rinsing every 3 minutes standard,Compressibility compensation: automatic Manual Sample Injection with Switch Injection loop :- 5 ul and 20 ul.,Auto start :- By Position Sensing Switch, Type :- 6 Port Flat Injector with Built in Needle port. Vacuum Degasser & Mixer Number of channel : 4 Channels,Maximum flow rate : 10 ml/min per channel > 0 ~ 2.0ml/min per channel for 70% Gas Removed from Methanol,Internal volume per channel : 925 ul per channel,Materials in contact with solvent : Teflon AF, PEEK and Glass-filled PTFE Photo Diode Array Detector Noise Level: < ± 2x10-5 AU,Drift : < ± 2x10-4 AU/hr,Slit Bandwidth : 1.7nm (Std), 2nm, 4nm, 8nm,Wavelength Accuracy: < 1nm GLP Compliance : -Photometric Accuracy, Linearity, Noise Level, Drift,Wavelength : 190 ~ 950,Analog Output : 4 Channel,Valve Output : 2ch, Sampling Programmable,Filtering : Bassel, RC, AVER. 0.01 ~ 10Hz,Linearity: < 5%, < 1% ,16bit AD Resolution, Cell : 1cm pathlegth, 14ul Auto sampler, 96 standard 2ml vials (32mm x 12mm) or well plates (96 or 384 capacity, deep or shallow) can be used. Sample capacity : 2 Micro Well Plates according to SBS standards, Sample capacity : 2 Micro Well Plates, Reproducibility :I)RSD ≤ 0.3% for full loop injections ii)RSD ≤ 0.5% for partial loop fill injections iii)RSD ≤ 1.0% for ㎕ pickup injections ,Carryover : < 0.05 % Column Ove, Temperature range: 4°C (Cooling) - 90°C, Temperature stability : ±0.05°C,Temperature accuracy : ±0.5°C,Temperature programs : 40 Steps, Column capacity : Total 3 columns (max. 2ea of 25cm column +1ea of 15cm column),Heat-up time : 16 minutes from 4°C to 90°C,Cool-down time : 13 minutes from 90°C to 4°C,Line frequency : 50/60Hz, ±5%,Column switching : max. Two automatic 6-port valve, Fraction Collector, Collection modes:- Manual time, peak & time, peak & drop, Programmable time unit :- 0.001 –99.99 per tube , .Multicycle operation :- Max 99 cycles, "Multiple column collection : Simultaneous collection from up to 8 columns with installation of column adapter." Fully System Controlled Software, GLP & GMP Compliance 21 CFR Audit trial & LIMS  compliance, Multichannel & Multitasking, with Leak Sensor, Ultra Speed data processing (LAN) – Network, Simultaneous data acquisition up to 4 system  Mandatory pre-installation requirement: Ultra Sonic Bath, Capacity:- 1.5 liters, Tank Size :- 240L x 135B x 65H (mm), Solvent Filtration Kit, Solvent Filtration Assembly Glass / SS,Nylon 66 Membrane Filter,Vaccum Pump for above Model PCI-15 i)Max. Flow– 15LPM, Vacuum-22” Hg (554mm),ii)Max. Pressure-25 Psig, 1/20 HP, Sample Filtration Kit, Ø 13mm S.S. Filter Holder, Rheodyne Needle,5ml Glass Syringe (Indian),5ml Gas Tight Syringe (Indian),5ml Gas  Tight syringe (imported),nylon 66 membrane filter,  Recommended accessories: Computer System& Printer :-With Latest Configuration, UPS (Uninterrupt Power Supply):- Minimum 2 KVA or above  Note:- All the item like UPS, Computer should be branded | 01 |
| 1. MIC32 | Water purifier for water of molecular biology HPLC grade | Basic Unit, Unit must be connected directly to Tap Water, Capacity to treat 10L water/hour ,One-touch clip type filters : Easy to replace filter by users, Reduction of conductivity from 450 to 0.1 mS/cm, RO Membrane Pack to support depth up to 50mm and active surface area 0.2mm ion cartridge. Consistent PE Tank Superior imported quality pe tank suitable for the above unit with complete housing & tubing. Capacity: 50 Lts. Ultra Unit System Composition : HP-Pack cartridge and 0.22 micron final filter, Product rate : 0.5~1.5 L / min, TOC : 5-10 ppb , Automatic recirculation : Water recirculation every 5 min.  Basic analytical balance: High contrast, large backlite LCD display for easy viewing with a.e.p. (advanced eye protection). Standard rs 232 c interface. capacity 220 gm, readability 0.1 mg, repeatability 0.1 mg, linearity 0.2 mg, pan size (mm) 85 ø x 3.3 “ | 02 |
| 1. MIC33 | ETO sterilizer | Automatic model, all operations are fully automated, ETO sterilization and aeration is done in same chamber. Microprocessor based, Warm / cold cycle facility, Built in auto aeration facility ,Auto shut off , Auto / manual changeover, Extra chamber depth, Requires compressed air for operations, Parameter recording (print out) facility.   |  |  | | --- | --- | | co2 adaptable | Yes | | utility needs |  | | power, phase (utility needs) | 220, 1-phase | | energy kw (utility needs) | 200 | | steam, avg psig (utility needs) | 50-80 | | water, avg psig (utility needs) | 60-80 | | chamber (material) |  | | size, m (ft) (room specifications) | 0.14 | | jacket composition (chamber) | Stainless steel | | in-chamber ventilation (hinge) | Yes | | hcfc adaptable (hinge) | Yes | | single-use 100% eto (chamber) | Yes | | audible alerts (cycle features) | Yes | | cycle features |  | | chamber pressure, psig (cycle features) | Up to 40 | | door(s) |  | | format (wavelength, nm) | Single, double | | Operation (door(s)) | automatic | | Hinge -2 doors (Left , Right) |  | | Gas used (hinge) | 100% EtO, EtO/CO2 | | 01 |

NEUROSURGERY DEPARTMENT

|  |  |  |  |
| --- | --- | --- | --- |
| S.NO | NAME OF EQUIPMENT | 1. **SPECIFICATION** |  |
| NRS1 | 8 slice mobile ct scanner | 1. **8 Slice True CT Scanner** 2. **Complete self contained lead shielding** 3. **Onboard 10” LCD touch screen** 4. **DICOM 3 images compliant with CereTom modality worklist module** 5. **Integrates with all PACS** 6. **1.25,2.5,5.0,10.0mm slice thickness** 7. **Laptop Imaging Computer with 17” hi-res Monitor** 8. **Hardware** 9. **Processor: Intel® Core™ 2 Duo Processor 3 GHz** 10. **Memory: 2 GB** 11. **Hard Drive: 120 GB** 12. **OS: Windows XP Professional** 13. **Monitor Resolution: 1920 x 1200** 14. **Advanced Visualization Software Package (Barco’s Voxar 3D™)** 15. **2D** 16. **3D** 17. **MPR viewing** 18. **Radiolucent Universal Scan Board** 19. **Radiolucent Carbon Fiber Material** 20. **Compatible with all bed types** 21. **Stryker** 22. **Hill-Rom** 23. **KCI** 24. **Attaches to the head of the bed** 25. **Patient slides up** 26. **Board attaches to scanner for easy transport** 27. **Allows for patient to be scanned in their OWN bed** 28. **Bed Adapter** 29. **Designed to fit any bed** 30. **Allows for optimized position of scan board for patient bedside scanning** 31. **Adapter allows for any bed to convert into the CereTom Scanning Platform** 32. **4 Day Onsite Training** 33. **Conducted by a NeuroLogica clinical specialist (up to 16 CEU Credits)** 34. **Covers all parts and labor including X-Ray tube** | 01 |
| NRS 2 | Brain suite | **BROAD BASED SPECIFICATIONS FOR INTEGRATED NEURO OT SUITE**  **The Operating Room theater/Suite should have**   * 1. **Fully integrated floor mounted iMRI**   2. **Full HD High-end Ceiling mounted image guidance system**   3. **Cranial Application software**   4. **Integrated data management system**   5. **Ceiling / Floor mounted surgical microscope**   6. **Ceiling mounted OR lights with integrated camera**   7. **MR compatible OR Equipment & Anesthesia System**   8. **Room Control and OR power Management system**   9. **RF Shielded OR Cabin with interior Finish**   10. **Installation**   11. **Miscellaneous**   **It should have the following features**   1. **INTRA-OPERATIVE MRI for Neurosurgical Procedures:**  * **Stable ultra-short length (150cm or less) whole body superconductive magnet strength of 3 Tesla magnet with active shielding.** * **High Performance gradient System with minimum gradient strength of 30mT/m or better.** * **MR-compatible OR table with exchangeable table top and compatible head holder for stabilizing patients head during the procedures.** * **Magnet bore to be sufficiently wide (60cm or more) after positioning of gradient. Shim and RF antennae to allow positioning the patient during surgery with head frame / head holder for imaging.** * **Digital RF Transmit and Receive System with 16 independent RF channels to permit PAT factors up to 4 (one direction) or more to help increase speed acquisitions.** * **Patient table should be able to take at least 150 kg patient load. Patient table should be usable as the operating table & should easily swivel or slide out for operating position. It should be incorporated with operating MR compatible head holder so as to allow imaging during surgery in supine, prone and lateral position.** * **Automatic registration of MR image should be possible for image-based navigation.** * **Minimum 8 channel Head Coil that can be used for image acquisition and intra-operative applications in Prone, supine & lateral positions.** * **Should be adequate for comprehensive examinations** * **Should have all the necessary coils & support systems**  1. **Fully Integrated High Definition (HD) Ceiling Mounted High-end Intraoperative Neuro Image Guidance Platform:**  * **System should offer network integration with MRI scanner for intra-operative Image Transfer.** * **It should have Interruption free signal transmission via fiber optical multiplexing system including all necessary analog/digital converters.** * **The system should be wireless based on Passive Marker Technology.** * **It should offer Planning and cranial navigation software with advanced 3D Visualization** * **Software should offer preoperative and intraoperative Automatic Image fusion of the CT/ MRI/ DTI/ BOLD MRI images.** * **The Navigation platform should come with in-wall, multi-touch information gateway having Interactive DICOM viewing, Universal DICON transfer, Full HD Streaming & recording capabilities** * **It should have a Zero OR footprint concept provided through ceiling-mounted cameras and touch displays** * **It should have a brilliant display quality with resolutions beyond full HD (1920x1200pixels per display). Image quality entirely preserved, no visualization limitations from the touch interface (surface acoustic wave technology)** * **Interface Box for connectivity e.g. with surgical microscopes, fluoroscopes, endoscopes, ultrasound etc via state-of-the-art digital and analog video inputs supporting up to full HD resolution: HD/SD-SDI up to 1080i/29.97fps, Composite (CVBS, NTSC/PAL), S-video (NTSC/PAL). 1x SDI HD (In), 1x S-Video (In), 1x Composite (In), 1x Brainlab Microscope Connector (with: 1x USB 2.0, 1x RS232, 1x SXGA, 1x SDI HD(In), 1x Composite(In))** * **Two large size, Clinical grade monitors (min. 42” each) additional screen should be there to have display of different image modalities/ live videos etc** * **The High-end Navigation platform should have a High resolution high definition with 1920 X 1200 pixels display screens with integrated Infrared camera system** * **It should have flexible positioning of cameras and monitor with multi articulated arms allowing adjustment to virtually any position** * **The Infrared camera should be extremely flexible in terms of providing for various adjustments to allow for various positions with camera height to allow flexible patient positioning & registration in both prone & supine position. It should:** * **Have extended detection volume and laser pointer for quick and intuitive positioning** * **Detects three-dimensional position of tools equipped with reflective marker spheres** * **Have Tracking accuracy of less than 0.5mm RMS (Root mean Sqaure)** * **The system must have dynamic referencing so that registration is not lost even if the camera or patient moves.** * **Navigation computer unit & Power supply, if required should to be positioned outside OR for better space management in the OR.** * **System should be operable without keyboard & mouse** * **The system should be capable of loading complete Cranial applications for Craniotomies, Skullbase tumors & Functional Neurosurgery.** * **The Advanced Cranial application software should have a separate workstation with TFT monitor for advanced cranial surgery planning enabled with transfer of preoperative data from CT, MRI, DTI, BOLD, SPECT, PET etc in DICOM format from any sources** * **The system should have screenshot storage function for documentation purpose** * **Disposable markers – Approx. 250 pieces should be provided**  1. **Cranial Application – Cranial Planning & Navigation:**  * **The system should permit intra-operative imaging to treat complicated neurosurgical cases and clinical applications like Glioma resection, pituitary tumor surgery, complicated tumor resection, epilepsy surgery, and intra cranial Cist surgery, biopsy, catheter placement, vascular surgery and functional imaging.** * **The software should have the capability to paint the targets and adapt to the complex 3D structure of the lesion/ object/ landmark using the HU value so that it becomes quick & time saving to outline the object during pre-operative & intra-operative planning.** * **The pre-operative planning for cranial application available should allow advanced visualization of 3D objects with volumetric information** * **The application should also include Manual patient registration (incase where Automatic patient registration is not used) and should avoid additional scanning cost for the patient without the use of fiducials or facial masks.** * **The system should have automatic image fusion capabilities of pre-operatively acquired DICOM images in the form of CT, MR, fMRI (DTI & BOLD), PET or SPECT** * **The system should allow DICOM images in Axial, Sagittal or Coronal planes should be reconstructed as 3D images and advanced cranial planning can be done on any plane and should be adapted to all planes automatically** * **The cranial planning should include the atlas based automatic object segmentation of anatomical objects in the brain** * **The cranial planning should allow automatic fusion of multiple DICOM data (CT, MRI, DTI, BOLD etc)** * **Software should offer Conversion of fiber tracts to 3D structures for visualization & interactive selection of Fiber tracks.** * **Software should allow anatomical images to be merged with functional maps to visualize perceptual, motoric & cognitive areas of the brain using the Blood Oxygen level dependent (BOLD) mapping & localization of functional areas.** * **The system should allow patient registration in both supine & prone position with –** * **Automatic patient registration while using Intra-operative MRI** * **Automatic Elastic fusion of pre-operative & intra-operative patient data for calculating Brainshift** * **Skin sensitive touch device for maximum accuracy in prone position while performing manual patient registration (in cases where intra-operative MRI imaging is not needed)** * **Laser registration device for markerless/touch free & fast registration while performing manual patient registration (in cases where intra-operative MRI imaging is not needed)** * **The system should display of a predefined trajectory pathway, inline and probe eye views.** * **The probe should have capability to show images at 0mm - 180mm in front of it (Tool Tip Extension). The virtual tip should be differentiated from real tip by color.** * **The system should have sub-millimetric patient accuracy ideal for deep seated cranial biopsies; at the sametime the system should also have the accuracy verification/ prediction system in-built in the system.** * **Microscope interface software should have advanced image guided microscopy: Tracking of spatial orientation, viewing, direction, and associated focal point of the microscope, Superposition of 3D projections and reformatted contours of pre-planned anatomical structures, targets, and trajectories Injection of such 3D information (contours, trajectories, targets) into the optical pathway of the microscope. Injection of non-correlated video images or diagnostic images (reformatted 2D/3D images) into optical pathway Continuous "smart" auto focus to the instrument or pointer tip.** * **Software for Frameless Biopsy system**  1. **Image Data Management System - Digital OR:**  * **System should offer complete Software and computer hardware for management of different patient data from different sources to display on Integrated I.P based Data Management Systems** * **System should offer complete digital information routing by using fiber optic wiring to allow images transfer. Conversion of analog into digital images, digital recording and digital image enhancement should be possible.** * **System should offer fast and direct control through touch screen of ceiling mounted navigation station. Sources should include live-video (microscope, endoscope, OR- lamp), ceiling mounted navigation screen and MRI data** * **Should be expandable to link to the hospital PACS network for retrieving, viewing, displaying and saving of patient data.** * **System should offer an Advanced hardware & software for routing and viewing of digital image and video sources within the OR environment and outside of an operating room. Should also provide advanced viewing and documentation functions.** * **System should offer flexibility of routing different video signals on the display panels during surgery.** * **System should include extra large in-wall integrated LCD monitor system for display of patient data from different sources at large size and full HD resolution during the procedure. A minimum of 3 high-resolution flat panel LCD screens with 16:9 format, built in-wall Superior resolution (1920x1080), high contrast and high brightness should be there.**  1. **Ceiling/ Floor mounted Surgical Microscope:**  * **Compact easily movable with class I Electrical safety features. Should have overhead clearance and long reach with short optical head distance** * **Should have bilateral motorized hand control unit for focus, zoom, light, video recording, still photography and fine X Y movement control with single release key for unlocking all movements** * **Motorized magnification 6:1 zoom, with 1.4-14 Mag with 10X or more eye piece, Motorized focus via multifocal 200 mm to 500 mm lens, with manual adjustment, widefield eyepiece (main surgeon and assistant), with field of view 15mm to 140mm with integrated beam splitting for assistant stereoscopic confocal eye piece lenses equivalent to main eye pieces** * **Rotation of optics upto 540º with lateral tilt up to 50º or more to left and right, Inclination tilt -30º to 120º or more, Binocular tubes with variable angle: 0º to 115º range for main surgeon, -55º to 60º for assistant with automatic, zoom synchronized illumination, working distance synchronized light control. Single button auto balance in all axes with separate independent rebalancing facility during surgery** * **Xenon lamp illumination systems of up to 400W with another independent xenon light back up with auto ignition capability reboot time incase of power failure preferably less than 30 seconds** * **It should integrate with the main HD Ceiling mounted navigation platform & Intraoperative MRI** * **Should have internal, motorized, high speed dual laser autofocus. Facility for mouth switch and foot control** * **Facility for HD video recording with different focus and magnification independent of surgeon’s view** * **Full HD camera/ recording system with latest processor with storage & Dual layer DVD-R/ CD-R with HD Input and output with MPEG-4 recording, USB connections with DICOM compatibility. Built in Full HD display panel (Pixel resolution more than 1080X1200 with panel size preferably more than 22 inches with touch pad or keyboard control)** * **Technical facility for wireless transfer of still images and videos to external storage media** * **Autodrape integrated vacuum system to remove air from sterile drapes** * **The microscope integration should deliver Heads up display and image injection module into the microscope eyepiece provided the microscope itself has those features.** * **Accessories: 25 disposable drapes for microscope**  1. **Ceiling mounted OR lights with integrated camera:**  * **Operating Room should have two high-end surgical OR lights with dual arm system and one integrated video camera with High illumination intensity, low heat radiation and easy-to-operate swivel arms.**  1. **MR compatible OR equipment & Anesthesia System:**   **Set of boom and spring arms to be installed in the OR to hold monitors, surgical and anesthesia eqpt. The following devices should also be available:**   * **Syringe Pump MRI compatible – Qty 04** * **MR-compatible drug administration system for exact medication dosage – Qty 01** * **Patient Monitoring System - MRI compatible – Qty 01** * **Anesthesia Ventilation System: High-end, fully MR-compatible mobile anesthesia device – Qty 01** * **At least one full set of MR compatible surgical instruments to cover all cranial operative procedures – Qty 01** * **MR compatible ultrasonic aspirator – Qty 01** * **MRI compatible Stool/ Chair – Qty 02** * **MR safe I.V Pole 4 hook system – Qty 02**  1. **Room Control & OR Power Management System:**  * **System should offer Software and hardware system to control electrical power circuits within OR. Should offer Control from inside through wall-integrated, MR-shielded touch screen or from outside through dedicated workstation at MR Console.** * **Individual control of OR and control room illumination (down lights, area lights), OR light, microscope, touch screen and IR cameras, Digital OR monitors, and all non-life-saving power circuits should be offered.** * **System should offer Hardware for distribution and control of all power supply for all the devices and components in the Operating Suite.** * **Provision for Power cabinets optimized for high availability through supply from multiple feed-ins and fall back functions in case of main feed failure should be provided.**  1. **RF-Shielding, Interior Walls, Air Conditioning:**  * **It should have modular, MR-compatible and MR-shielding OR wall, ceiling and floor system including the necessary cuttings and recesses for the installation of individual outlets for air conditioning, electricity and gas.**  1. **Installation:**  * **Computer hardware, software, OR equipment and other devices should be latest at the time of installation and should be upgradeable as per future requirements.**  1. **Miscellaneous:**  * **Training: Full Training should be conducted to operation room staff. Local and overseas training should be covered for OR technicians and medical staff.** * **Space required for installation of NEURO OT SUITE including all the necessary approvals for building plan etc shall be provided by the hospital.** | 01 |
| NRS3 | Neuronavigation | **Technical Specifications**   |  |  | | --- | --- | | **Sno.** | **Required Technical Specifications** | | **1.** | **System Specification:** | | **1.01** | **The system should be easy to set up, user friendly,**  **intuitive and should work under Windows/Linux/Unix operating system environment.** | | **1.02** | **It should have Optical, laser guided and advanced wireless passive marker tracking technology** | | **1.03** | **The system should have touch-sensitive screen and could be used in sterile field. The display should be of Full HD resolution (1920X1080) with minimum 20 Inch wide screen** | | **1.04** | **The system should be plug n play and system software should be user**  **friendly wizard guided to control set up, registration and navigation procedure.** | | **1.05** | **It should have Rapid data transfer directly to the navigation station with the option of USB 2.0 port for direct data import and also have direct and seamless integration with the hospitals PACS system** | | **1.06** | **The machine should have a central home bottom which ensure direct navigation and return to the main screen** | | **1.07** | **The system should identify new instruments for tracking using the universal tracking system** | | **1.08** | **The system must have dynamic referencing so that registration is not lost even if the camera or patient moves.** | | **1.09** | **It Should be HIPPA compliant including authentication, accountability log and automatic log-off features** | | **1.10** | **The navigation system should be operable without keyboard or mouse** | | **1.11** | **It should have separate mobile cart for the camera stand for flexible positioning** | | **1.12** | **The mobile stand for the camera should be telescopic with pneumatic**  **braking to take care of line of sight issues** | | **1.13** | **It should be capable of Interactive DICOM viewing which allows standalone as well as clinical use of DICOM images (CT, MRI etc) to be viewed, manipulated as per the surgical orientation and clinical need of the planned Neurosurgical procedure** | | **1.14** | **The navigation system should be operable without keyboard and mouse** | | **1.15** | **The system should be capable of loading Cranial & Spinal applications for Craniotomies, Skullbase tumors, Deep-seated Cranial Biopsies & Complex Spinal surgery.** | |  |  | | **2.** | **Cranial Navigation Specifications:** | | **2.01** | **The system should have pre-operative planning using the DICOM images for pre-operative Neurosurgical planning.** | | **2.02** | **The system should allow DICOM images in Axial, Sagittal or Coronal planes should be reconstructed as 3D images and advanced cranial planning can be done on any plane and should be adapted to all planes automatically** | | **2.03** | **To avoid additional scanning cost for the patient, the system should not use fiducial based or facial mask based surface registration.** | | **2.04** | **The system should have automatic image fusion capabilities of pre-operatively acquired DICOM images in the form of CT, MR, fMRI (DTI & BOLD), PET or SPECT** | | **2.05** | **The software should automatically fuses axial, coronal and sagittal plane image sets of different modalities.** | | **2.06** | **It should allow touch based planning for Neurosurgical procedures and should allow to contour structures/ lesion/ important landmarks with advanced visualization of 3D objects with volumetric information, Trajectories for all Cranial procedures including transnasal approach.** | | **2.10** | **The system should allow patient registration in both supine & prone position using –**   * **Skin sensitive touch device for maximum accuracyin prone position** * **Laser registration device for markerless/touch free & fast registration** | | **2.11** | **The system should display of a predefined trajectory pathway, inline and probe eye views.** | | **2.12** | **The probe should have capability to show images at 0mm - 100mm in front of it (Tool Tip Extension). The virtual tip should be differentiated from real tip by color.** | | **2.13** | **The system should have sub-millimetric patient accuracy ideal for deep seated**  **Cranial biopsies; at the sametime the system should also have the accuracy**  **verification/ prediction system in-built in the system.** | | **2.14** | **The system should have screenshot storage function for documentation purpose** | | **2.15** | **It should have universal instrument adapters with passive markers to allow tracking of any existing hospital instruments like drills, bipolar, knife, Awl, Probe, endoscopes.** | | **2.16** | **Calibration of existing instruments should be done automatically. System should automatically identify new instruments for tracking.** | | **2.17** | **The system should allow free hand frameless biopsy capabilities and both Framebased as well as Frameless biopsy should be included as a part of the system** | | **2.18** | **It should include the Frameless biopsy system that should allow online tracking of biopsy needle according to pre-planned trajectory** | | **2.19** | **The frameless biopsy system should include sterilizable, wireless & pre-calibrated alignment array** | |  |  | | **3.** | **Ultrasound Integration** | | **3.01** | **System must have Intraoperative Ultrasound imaging software for brain shift compensation, tumor delineation & resection.** | | **3.02** | **The system should have integration with available Ultrasound at the hospital with Intra-cranial probes from any reputed international supplier. The existing Intracranial Ultrasound probe to be integrated is <Kindly fill>** | | **3.03** | **The Ultrasound navigation software should be able to co-relate with pre-operative MR/CT images. These images should have view side by side or overlaid.** | | **3.04** | **The system should capture & display live USG video images. It should reconstruct & perform the *3D overlay* on the intra-operatively acquired USG images** | | **3.05** | **The system should then allow to perform the Updation of the real time by moving the object to the current position compensating for the *‘Brainshift’*** | | **3.06** | **All related Instrumentations & adapters for USG integration should be a part of the system** | | **4.** | **Spinal Navigation Specifications:** | | **4.01** | **The system should also have the facility to independently use *pre-operatively acquired CT* images for spinal application as well as *live fluoro integration (C-arm)*. The integration should be possible with any 2D C-arm (Round bore or Flat panel).** | | **4.02** | **The C-arm integration should also allow to automatically fuse the pre-acquired CT image with the live flouro image so that difficultly in registering the thoracic & Cervical region because of the interference of ribs & shoulder can be compensated.** | | **4.03** | **With the auto fusion of CT & live fluoro, the system should allow to surgeon to register the patient on live fluoro c-arm and thereby allowing the clinician to simultaneously work on the CT images with 3D reconstruction** | | **4.04** | **The system should have an interactive planning of spinal implant position and angle.** | | **4.05** | **The system should have an Intra-operative planning of trajectories & Virtual real time view for comprehensive instruments and implants during the spinal surgical procedure.** | | **4.06** | **The probe should have capability to show images at 0mm - 100mm in front of it (Tool Tip Extension). The virtual tip should be differentiated from real tip by color.** | | **4.07** | **The drill guide system should give the ability to use the pre-calibrated drill guide with adjustable depth control to navigation in thoracic, lumber, cervical & sacral cases. It should include:**  **- Drill guide tubes of different sizes**  **- Drill guide tubes & drill bits with standard fittings & depth control**  **- Pre-calibrated Drill guide handle** | | **4.08** | **The system should have screenshot storage function for documentation purpose** | |  |  | | 02 |
| NRS 4 | DSA machine with biplanner C arm with DSA & CT facility | **Generator microprocessor controlled high frequency, 2 kW or more, integrated beam filters to reduce skin radiation.**  **Collimator with octagonal, parallel, compensating filter. All programmable by anatomy. Virtual collimation non last image hold.**  **x-ray mode(kV or mA range( KV range 40-110KV**  **fluoroscopy 5mA or more, multidose options, pulsed fluoroscopy with last image hold.**  **Radiography- for cassette exposure min. of 20mA, X-ray tube should be stationary anode 90KHU or more, focal spot 0.6mm or smaller.**  **Image intensifier 9” or more, multimode with CCD camera.**  **Image chain medical grade CCD. Last image hold with image recall.**  **Cassette holder.**  **Image display on 2 17” high resolution, high contrast and flicker free moniters.**  **System- all locks relase by single touch operation.including II handle.vertical operation with counter balance. Cables inside the C arm preferred. Verticle, horizontal,orbital travel available wih C arm rotation 135 degree or more.**  **System should perform DSA with acquision of 3 frames per second or more, real time and peak hold, road mapping, annotation, remasking and multi image display with storage capability of 5000 images or more.**  **Assesories-**  **Wrap around light weighted vinyl lead apron with 0.5mm lead equivalence certified by BARC or AERB or ISO:2 2 in no.**  **Dicom miniwork station with redundant power supply, 2 gb ram or higher, 18” flat LCD moniter, windows 7 professional, 2 usb ports one lan port, dvd drive R/W, key board, mouse,**  **DCOM software should have capacity to post process, dicom print to dicom printer. UPS of 7.5 KVA for entire system including the C- Arm with 30 min back up.** | 02 |
| NRS 5 | Operating microscope | Technical Specification for Neurosurgery microscope **Motorized zoom magnification 1:6ratio**  **Maximum magnification upto 18.5 x or more**  **Objective multi focal lens 200-500mm variable focal length with auto focus through microscope**  **Variable working distance range of 300mm (from 200-500mm), motorized, manual and via laser autofocus integrated within the stand.**  **Pair of wide-field eyepieces for spectacle wearers 12.5x dioptric setting +5D to -8D**  **Ergonomic handles with buttons for motorized control of focus, zoom, axis movement, with programmable keys.**  **Microscope should be compatible with DICOM and Neuronavigation system integrated within the microscope stand.**  **Facility for adjusting speed of the focusing motor to adapt for different magnifications.**  **300w xenon illumination with 300w xenon back up in same illumination module through the fiber optic cable with semiautomatic lamp changeover facility integrated within the stand.**  **Inclinable binocular tube, inclinable over range of minimum 0-180°.**  **Facility for dual beam laser auto focus system-**  **mandatory Vacuum auto drape system for complete microscope head .**  **Photography re cording of still/video/digital image+ other teaching aids integrated within the stand.**  **Floor stand with contraves technology and graphical screen for all functions of the system zoom, illumination, focus video etc.**  **Complete auto balance of whole system by single push of a button for microscope body and microscope stand even intra-operatively.**  **Stereoscopic co observation attachment for second observer with tilt able eyepieces, minimum 0-180° should remain fixed when tilting of main microscope.**  **Face to face co-observation binocular tube attachment for assistant as in spinal surgeries.**  **Integrated 3-chip CCD camera, 3 CCD camera should be integrated in the microscope body without any external cables & attachments.**  **Integrated digital video recording facility with appropriate video editing software**  **Full Multifunctional wireless footswitch.**  **Should have additional integrated illumination beam path to brighten shadows.**  **Should have adjustable, ergonomic handgrips, symmetrical and attached clearly above the bottom edge of microscope, multifunctional key assignment with minimum 4 freely programmable keys and a joystick for motorized XY fine adjustment/operation of navigation functions.** | 02 |
| NRS6 | Neuroendoscope  Pituitary set | |  |  |  | | --- | --- | --- | | **No** | **Instrument** | **Specification** | | **1** | **0 degree scope** | **Straight Forward Telescope 0°, enlarged view, diameter 4 mm, length 18 cm, autoclavable. Fiber optic light transmission incorporated.**  **Should be USA FDA & CE Approved** | | **2** | **Sheath** | **Suction and Irrigation Sheath 0°, for endoscopic diagnosis and surgery of the paranasal sinuses and anterior scull base, oval, O.D. 4,8 mm x 6 mm, with separate channel for suction and irrigation**  **Should be USA FDA & CE Approved** | | **3** | **30 degree scope** | **Forward-Oblique Telescope 30°, enlarged view, diameter 4 mm, length 18 cm, autoclavable. Fiber optic light transmission incorporated.**  **Should be USA FDA & CE Approved** | | **4** | **Sheath** | **Suction and Irrigation Sheath 30°, for endoscopic diagnosis and surgery of the paranasal sinuses and skull base, oval, O.D. 4,8 mm x 6 mm, with separate channel for suction and irrigation**  **Should be USA FDA & CE Approved** | | **5** | **45 degree scope** | **Forward-Oblique Telescope 45°, enlarged view, diameter 4 mm, length 18 cm, autoclavable. Fiber optic light transmission incorporated.**  **Should be USA FDA & CE Approved** | | **6** | **Sheath 45 degree** | **Suction and Irrigation Sheath 45°, for endoscopic diagnosis and surgery of the paranasal sinuses and anterior scull base, oval, O.D. 4,8 mm x 6 mm, with separate channel for suction and irrigation**  **Should be USA FDA & CE Approved** | | **7** | **Cleaning handle** | **Suction and Irrigation Handle, with Push-Button Pressure Valve, for use with suction and irrigation sheath consisting of: Suction and Irrigation Handle, Push-Button Pressure Valve**  **Should be USA FDA & CE Approved** | | **8** | **Scissors** | **Nasal Scissors, medium standard model, working length 9.5 cm**  **Should be USA FDA & CE Approved** | | **9** | **Forceps** | **Nasal Forceps, 45°, upturned, working length 11 cm, size 1**  **Should be USA FDA & CE Approved** | | **10** | **Forceps** | **Nasal Forceps straight, size 1, working length 11 cm**  **Should be USA FDA & CE Approved** | | **11** | **Punch** | **Antrum Punch, backward cutting, sheath 360° rotatable, with fixing screw, working length 10 cm, take apart sheath, for use with cleaning adaptor**  **Should be USA FDA & CE Approved** | | **12** | **Punch** | **Punch, circular cutting, for sphenoid, ethmoid and choanal atresia, diameter 3.5 mm, with cleaning connector, working length 18 cm**  **Should be USA FDA & CE Approved** | | **13** | **Curette** | **Suction- Curette, with round wire, ID 5 mm, tip angled 45° , length 25 cm**  **Should be USA FDA & CE Approved** | | **14** | **Curette** | **Suction, Curette, basket-shape, round wire, size 5 mm, rotating tubing- connector, length 25 cm,**  **Should be USA FDA & CE Approved** | | **15** | **Scissors** | **Scissors, 45°, delicate, Sheath 360° rotatable, working length 18 cm**  **Should be USA FDA & CE Approved** | | **16** | **Bipolar** | **Bipolar Grasping Forceps, size 3,4 mm, length 20 cm**  **Should be USA FDA & CE Approved** | | **17** | **Forceps** | **Forceps Insert for bipolar grasping forceps, size 3 mm, length 20 cm**  **Should be USA FDA & CE Approved** | | **18** | **Bipolar** | **Bipolar Forceps, width 4 mm, distally angled 45°, horizontal closing, size 3,4 mm, working length 20 cm**  **Should be USA FDA & CE Approved** | | **19** | **Bipolar** | **Bipolar Forceps Insert, 4 mm, distally angled 45°, horizontal closing, length 20 cm**  **Should be USA FDA & CE Approved** | | **20** | **Bipolar** | **Bipolar Forceps, width 2 mm distally angled 45°, horizontal closing, outer diameter 3,4 mm, working length 20 cm**  **Should be USA FDA & CE Approved** | | **21** | **Bipolar** | **Bipolar Forceps Insert, 2 mm, distally angled 45°, axial closing, size 3 mm, length 20 cm**  **Should be USA FDA & CE Approved** | | **22** | **Cord** | **Bipolar High Frequency Cord**  **Should be USA FDA & CE Approved** | | **23** | **Knife** | **scalpel, with telescopic blade, consisting of: Handle, outer tube and Micro-knife, sickle-shaped**  **Should be USA FDA & CE Approved** | | **24** | **Knife** | **Round Knife, vertical, 3.5x2.5mm length 25 cm, with round handle**  **Should be USA FDA & CE Approved** | | **25** | **Dissector** | **Dissector, sharp, round spatula, tip angled 45°, size 3 mm, with round handle, length 25 cm**  **Should be USA FDA & CE Approved** | | **26** | **Elevator** | **Elevator,double-ended semi-sharp and blunt, length 26 cm**  **Should be USA FDA & CE Approved** | | **27** | **Unipolar Suction** | **Coagulation Ball Electrode, diameter 2 mm, laterally curved, working length 13 cm**  **Should be USA FDA & CE Approved** | | **28** | **Elevator** | **Elevator, double-ended angulated semi-sharp shovel blade, blunt end slightly curved, length 26 cm**  **Should be USA FDA & CE Approved** | | **29** | **Suction** | **Suction Tube, ø 2 mm, length 25 cm, malleable, lateral suction holes**  **Should be USA FDA & CE Approved** | | **30** | **Curette** | **Ring- Curette, horizontal, round wire, ID 5 mm, long curved, with round handle, length 25 cm**  **Should be USA FDA & CE Approved** | | **31** | **Curette** | **Ring- Curette, round wire, ID 3 mm, tip angled 90°, with round handle, length 25 cm**  **Should be USA FDA & CE Approved** | | **32** | **Adopter** | **Adaptor, autoclavable, facilitates changing of telescopes in sterile conditions**  **Should be USA FDA & CE Approved** | | **33** | **Knife blade** | **Micro Knife, sickle-shaped, alone**  **Should be USA FDA & CE Approved** | | **34** | **Suction** | **Insulated Cannula for suction and coagulation, O.D.: 3 mm, 90° curved, working length 16cm**  **Should be USA FDA & CE Approved** | | **35** | **Suction** | **Insulated Cannula for suction and coagulation, O.D.: 3,6 mm, 90° curved, working length 16cm**  **Should be USA FDA & CE Approved** | | **36** | **Forceps** | **Forceps, very delicate, oval cupped jaws 0.9 mm, straight, working length 18 cm**  **Should be USA FDA & CE Approved** | | **37** | **Forceps** | **Forceps, round cupped jaws, diameter 0.6 mm, extra delicate, straight, working length 18 cm**  **Should be USA FDA & CE Approved** | | **38** | **Scissors right** | **Scissors, curved to right, with small handle, with cleaning connector, working length 18 cm**  **Should be USA FDA & CE Approved** | | **39** | **Scissors left** | **Scissors, curved to left, with small handle, with cleaning connector, working length 18 cm**  **Should be USA FDA & CE Approved** | | **40** | **Scissors** | **Scissors, curved upwards, with small handle, with cleaning connector, working length 18 cm**  **Should be USA FDA & CE Approved** | | **41** | **Forceps** | **Nasal Forceps, with extra fine flat jaws, through-cutting, tissue sparing, width of cut 1.5 mm, straight sheath, straight jaws, with cleaning connector, working length 118 cm**  **Should be USA FDA & CE Approved** | | **42** | **Forceps** | **Nasal Forceps, with extra fine flat jaws, through-cutting, tissue sparing, width of cu44t 1.5 mm, straight sheath, jaws angled downwards 45°, with cleaning connector, working length 18 cm**  **Should be USA FDA & CE Approved** | | **43** | **Punch** | **Punch, upbiting 60° forward, size 1 mm, working length 17 cm**  **Should be USA FDA & CE Approved** | | **44** | **Punch** | **Punch, upbiting 60° forward, size 2 mm, working length 17 cm**  **Should be USA FDA & CE Approved** | | **45** | **Punch** | **Punch, downbiting 60° forward, size 1 mm, working length 17 cm**  **Should be USA FDA & CE Approved** | | **46** | **Punch** | **Punch, downbiting 60° forward, size 2 mm, working length 17 cm**  **Should be USA FDA & CE Approved** | | **47** | **Forceps** | **Nasal Forceps, 45° upturned, through-cutting, tissue-sparing, size 0, width 3 mm, with cleaning connector, working length 13 cm**  **Should be USA FDA & CE Approved** | | **48** | **Forceps** | **Nasal Cutting Forceps, jaws upturned 15°, through-cutting, extremely powerful resection, patented uniform force transmission for gently controlled cutting, new ergonomic handle design, width of cut 2.7 mm, with cleaning connector, working length 13 cm**  **Should be USA FDA & CE Approved** | | **49** | **Forceps** | **Nasal Cutting Forceps, straight, through-cutting, extremely powerful resection, patented uniform force transmission for gently controlled cutting, new ergonomic handle design, size 1, 8 x 3 mm, with cleaning connector, working length 13 cm**  **Should be USA FDA & CE Approved** | | **50** | **Curette** | **Curette, bendable up to 90°, round spoon, size 3.5 mm, working length 20cm**  **Should be USA FDA & CE Approved** | | **51** | **Curette** | **Curette, round, bendable up to 90°, size 3.8 mm, working length 20 cm**  **Should be USA FDA & CE Approved** | | 04 |
| NRS7 | Neuroendoscope  Spine set | |  |  |  | | --- | --- | --- | | **No** | **Instrument** | **Specification** | | **1** | **Localization Device** | **Localization Device, for fluoroscopic determination of the point of incision for ENDOSPINE Operating Tube**  **Should be USA FDA & CE Approved** | | **2** | **Tube** | **ENDOSPINE Operating Tube oval, with obturator , for use with working insert**  **Should be USA FDA & CE Approved** | | **3** | **Working insert** | **ENDOSPINE Working Insert with positioning detend, for use with ENDOSPINE operating tube , with working channel diameter 8 mm, with irrigation channel for use with scope , with adjustable nerveprotector**  **Should be USA FDA & CE Approved** | | **4** | **Chisel** | **Chisel, flat, straight, with handle, distal width 15 mm, working length 9 cm**  **Should be USA FDA & CE Approved** | | **5** | **Suction** | **FERGUSON Suction Tube, angled, with cut-off hole, diameter 3.7 mm, working length 11 cm**  **Should be USA FDA & CE Approved** | | **6** | **0 degree scope** | **HOPKINS II Straight Forward Telescope 0°, enlarged view, diameter 4 mm, length 18 cm, autoclavable. Fiber optic light transmission incorporated. Color code: green**  **Should be USA FDA & CE Approved** | | **7** | **Punch 90** | **Bone Punch, 90°, upbiting, 3 mm, working length 18 cm**  **Should be USA FDA & CE Approved** | | **8** | **Punch 45** | **Bone Punch, 45°, forwards upbiting, 3 mm, working length 18 cm**  **Should be USA FDA & CE Approved** | | **9** | **Hook** | **Palpation Hook, blunt, distally angled 90°, hook length 5.5 mm, working length 13 cm**  **Should be USA FDA & CE Approved** | | **10** | **Elevator** | **Elevator, spatula slightly curved, distal width 5 mm, working length 13 cm**  **Should be USA FDA & CE Approved** | | **11** | **Trephine** | **Trephine, diameter 3mm, working length 22cm**  **Should be USA FDA & CE Approved** | | **12** | **Spoon Forceps** | **Spoon Forceps, heavy, oval, spoonsize 3x10 mm, single action jaws, working length 15 cm**  **Should be USA FDA & CE Approved** | | **13** | **Bipolar Probe** | **Take-apart Bipolar Coagulating Forceps, width of jaws 1 mm, diameter 5 mm, working length 20 cm, consisting of:Ring Handle Outer Tube, Insert Forceps, only**  **Should be USA FDA & CE Approved** | | **14** | **Bipolar Cord** | **Bipolar High Frequency Cord with 2 x 4 mm banana-plug to Coagulator 26020 XA/ XB Valleylab, length 300 cm**  **Should be USA FDA & CE Approved** | | 04 |
| NRS8 | Neuroendoscope  Intraventricular scope | |  |  |  | | --- | --- | --- | | **No** | **Instrument** | **Specification** | | **1** | **Operating Sheath** | **Operating sheath for ventriculoscope, outer diameter 6.8 mm, working length 13.3 cm**  **Should be USA FDA & CE Approved** | | **2** | **Obturator** | **Optical Obturator used with 0° Scope**  **Should be USA FDA & CE Approved** | | **3** | **0° Scope** | **Forward Oblique- Telescope 0°, enlarged view, diameter 2 mm, length 26 cm, autoclavable, fiber optic light transmission incorporated**  **Should be USA FDA & CE Approved** | | **4** | **Operative Scope** | **Ventriculoscope Wide Angle Straight Forward Telescope 6°, angled eyepiece, outer diameter 6.1 mm, length 18 cm, working channel diameter 2.9 mm, irrigation/suction channel diameter 1.6, autoclavable, fiber optic light transmission incorporated**  **Should be USA FDA & CE Approved** | | **5** | **Ventriculostomy Forceps** | **360 degree rotatable Ventriculostomy Forceps, diameter 2.0 mm, working length 30 cm**  **Should be USA FDA & CE Approved** | | **6** | **Scissors** | **360 degree rotatable Scissors, single action jaws, pointed, diameter 2 mm, working length 30 cm**  **Should be USA FDA & CE Approved** | | **7** | **Biopsy Forceps** | **360 degree rotatable Biopsy Forceps, both jaw parts movable, Ø 2.0 mm, working length 30 cm**  **Should be USA FDA & CE Approved** | | **8** | **Grasping Forceps** | **360 degree rotatable Grasping Forceps with teeth, 2.0 mm, working length 30 cm**  **Should be USA FDA & CE Approved** | | **9** | **Scissors** | **Scissors, pointed, lightly curved jaws, double action jaws, diameter 1,7 mm, length 30 cm**  **Should be USA FDA & CE Approved** | | **10** | **Ventriculostomy Forceps** | **Ventriculostomy Forceps, diameter 1.0 mm, flexible, working length 30 cm**  **Should be USA FDA & CE Approved** | | **11** | **Biopsy Forceps** | **Biopsy Forceps, double action jaws, flexible, diameter 1 mm, working length 30 cm**  **Should be USA FDA & CE Approved** | | **12** | **45 Degree Telescope** | **Telescope 45°, enlarged view, ø 3.3 mm, length 25 cm, autoclavable, fiber optic light transmission incorporated,**  **Should be USA FDA & CE Approved** | | **13** | **Needle** | **Injection Needle, flexible, diameter 2.5 mm, working length 45 cm, disposable**  **Should be USA FDA & CE Approved** | | **14** | **Puncher Needle** | **Puncture Needle**  **Should be USA FDA & CE Approved** | | **15** | **Cogulator** | **Coagulating Electrode, bipolar, 5 Fr.**  **Should be USA FDA & CE Approved** | | **16** | **Bipolar** | **TAKE-APART Bipolar Forceps, long, flat jaws, outer diameter 2.4 mm**  **Should be USA FDA & CE Approved** | | **17** | **Cord** | **Bipolar High Frequency Cord with 2 x 4 mm banana-plug , length 300 cm**  **Should be USA FDA & CE Approved** | | 04 |
| NRS9 | Neuroendoscope  Shunt scope | |  |  |  | | --- | --- | --- | | **No** | **Instrument Name** | **Specification** | | **1** | **Miniature Scope** | **Shunt-Scope: Miniature Straight Forward Telescope 0°, diameter 1 mm, length 16 cm, semi-rigid, with remote eyepiece and light connection, LUER-Lock adaptor, fiber optic light transmission incorporated, should have accessories: case, protecting tube**  **Should be USA and FDA Approved** | | **2** | **Sheath for Scope** | **Examination Sheath, O.D. 1.3 mm, working length 16 cm, with blunt obturator, 1 LUER-lock adaptor, for use with miniature sunt scope.**  **Should be USA and FDA Approved** | | **3** | **Light Cable** | **Fiber Optic Light Cable, size 2.5 mm ø, length 230 cm compatable to miniature scope.**  **Should be USA and FDA Approved** | | **4** | **Tray** | **Metal Tray, for sterilization and storage of Miniature Straight Forward Telescope and two perforated, lid with silicone bridges, external dimensions (w x d x h): 373 x 178 x 35 mm**  **Should be USA and FDA Approved** | | 04 |
| NRS10 | CUSA | **Ultrasound aspirator for neurosurgical purpose with simultaneous,& coaxial suction & irrigation.**  **Adjustable aspiration frequency useable for neurosurgery, general surgery( open or laparoscopic), urology, plastic surgery etc. aspiration pressure 0-508mmhg(fluidic mode)**  **foot switch controls, preset modes. Error code displays, displays staining posts- irrigation, aspiration, vibration status indicator, other alarms.**  **Light wiegheted, ergonomically designed hand pieces straight, angled, straight extended, angled extended**  **CAVI pulse vibration mode & CEM system(CUSA electrosurgical module) for independent and simultaneous electro-surgical cabablity through handpioece tip. Meets BSI, CLA, TEC**  **FDA clearance, CE mark, worldwide marketing.** | 03 |
| NRS11 | High speed drills   1. Electrical | **Cranial, spine, ENT applications should be possible from single console.**  **Ergonomically designed with rpm from 10,000-80,000. High torque upto 41mNm & power upto 138W. operate in both forward and reverse , occilating modes**  **Should be able to connect multiple hand pieces at a time like neurodrills, debrider hand pieces, spine shaver.**  **Should have inbuilt pumps for irrigation and cooling. Should have Option of remote controlled irrigation.**  **Foot switch control. Touch screen moniter. Detachable cables to connect to console, quick release and lock systems for tools and attachments.**  **Provision to connect facial nerve moniter.**  **No oil lubrication.**  **Light weight hand pieces. Console should recognize and automatically adjust to the setting of hand pieces**  **Attachments and accessories- straight, variable straight, angled, variable angled attachments, hooded telescopic tubes and curved burrs with wrapped shafts and lengths of 90-110mm should be available.**  **Option of bone mill attachment for crushing bone graft.**  **Various dissecting tools in variety of tip shapes and also in diamond and carbon tools and disc tools for metal, ceramic, cement removal.** | 05 |
| NRS12 | 1. Pneumatic | **Pneumatic motor with 360degree swivel**  **Foot control –open padel design for easy acess and repositioning, variable speed , water proof.**  **Compress gas nitrogen or dry filtered compressed air**  **Pressure bar 2-8 bar(20-120 psi) consumption, cfm 1-8 cfm flow( 28.3l/min to 226.4l/min**  **Weight 2 ounce. Chuck type direct driven quick connect.**  **Sterilization method flash or regular steam autoclave- high vacumn,prevacumnor gravity displacement or EO sterilization for all drill, hose pipes. No oil lubrication.**  **Sound level 70-76Db at 18 inches.**  **Motor speed upto 80000rpm according to operatots desecration.**  **Craniotome attachment available in fixed and rot table in three sizes, to cater to peadiatric cases to adult with thick skull bone. Simple 3 step quick release, having tapered design for better surgical visibility.**  **Attachments for spinal surgerystraight, variable straight, angled, variable angled, metal cutter attachment. Variable length attachments to vary the tool exposure lengths for optimal visibility without touching the tool tip. Should be adjustable in 1 mm increments upto 12mm. simple 3 step quick release, different length and geometry suitable for different procedures, color coded for identification.**  **Should fit into pneumatic/ electrical drill and attachments for endoscopic surgeries.**  **Hooded telescopic tubes, straight and curved, outer diameter <5mm, inner diamenter 1.2mm-1.5 mm. tubes should be of length 12cm, 15cm hooded, 17cm.**  **Bone mill option should be there for crushing bone for bone grafting** | 01 |
| NRS13 | Operating tables with neuroattachments | **Remote control and additional console on table or foot switch,**  **suitable for all cranial and spinal procedures,**  **four or more pieces, compatible with image intensifier and neuronavigation,**  **offer various positions of the patient- supine, sitting, lateral, prone,**  **height adjustable upto 2 feet above ground.well cushioned.** | 06 |
| NRS14 | Intraoperative USG | **With portable laptop which can be incorporated easily with the neuronavigation system based on CT or MRI.**  **High resolution probes for visualizing brain parenchyma with clear tissue depiction, Doppler enabled.** |  |
| NRS15 | Sugita head clamp | **Compatible with CT/MRI for intraoperative neuroimaging** | 05 |
| NRS16 | Mayos head clamp | **Compatible with CT/MRI for intraoperative neuroimaging** | 05 |
| NRS17 | Aneurismal clips with all applicators | **. YASARGIL 2. YASARGIL Aneurysm Clip System**  **Titanium Standard Clips**  **TEMPORARY**   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | **Blade length**  **mm** | **Maximal Opening**  **Mm** | **Closing force** | | | **N** | **G** | | **Straight** | **7.0** | **6.2** | **1.08** | **110** | | **Straight** | **9.0** | **7.0** | **0.88** | **90** | | **Forward Curved** | **6.5** | **6.0** | **1.08** | **110** | | **Forward Curved** | **8.3** | **6.8** | **0.88** | **90** | | **Forward Curved** | **8.0** | **6.5** | **1.08** | **110** | | **Bayonet** | **7.0** | **7.9** | **0.88** | **90** | | **Side Angle** | **8.0** | **6.2** | **1.08** | **110** | | **Right Angle** | **7.0** | **4.5** | **1.28** | **130** | | **Right Angle** | **9.0** | **5.6** | **1.28** | **130** |   **Titanium Fenestrated Clips**  **TEMPORARY**   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | **Blade length**  **mm** | **Maximal Opening**  **mm** | **Closing force** | | | **N** | **G** | | **Staright** | **3/8.1** | **7.5** | **1.08** | **110** | | **Staright** | **9/14.1** | **8.4** | **1.08** | **110** | | **Staright** | **3/9.8** | **7.4** | **1.08** | **110** | | **Forward Curved** | **5/9** | **6.5** | **1.08** | **110** |   **//2//**  **Titanium Mini Clips**  **TEMPORARY**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Cat No.** | **Blade length**  **mm** | **Maximal Opening**  **mm** | **Closing force** | | | **N** | **G** | | **Staright** | **5.0** | **4.0** | **0.69** | **70** | | **Forward Curved** | **4.0** | **3.6** | **0.78** | **80** | | **Forward Curved** | **4.7** | **4.0** | **0.69** | **70** |   **Titanium Clip Applier**  **Clip Applier**  **90mm,3½”×220,8¾”**  **Clip Applier**  **50mm,L” ×180mm 7”**  **90mm, 3½”×220, 8¾”**  **110,4 5/8” ×250,10”**  **Titanium Clip Applier**  **90mm, 3½”×220,8¾”**  **110mm,4 3/8” ×240mm,9½”**  **Titanium Clip Removing Forceps**  **YASARGIL Removing Forceps**  **90mm,3½”×220mm,8 3/8”**  **110mm,4 3/8” ×250mm,93/8**  **//3//**  **Storage :**  **Clip Tray 1/1**  **For Storage,transport and sterilization of Aesculap YASARGIL Aneurysm Clips**  **Autoclavale plastic**  **Fits 1/1 standard container**  **34 storage compartments for Standard and Mini Clips**  **4 Storage compartments for Long Clips**  **With special identification tags for individual tray configuration.**  **Storage of applying forceps**  **Perforated basket with lid, for storage of clip applying forceps.** | 03 |
| NRS18 | Patient slide | **Light weighted, heavy duty to transfer /roll over patients form trolly on table or vise versa.** | 08 |
| NRS19 | Fowlers bed | **Mechanically operated back rest, knee rest by super smooth crank mechanism/ remote controlled. Size 2140(L)x940mm(W)x530mm(H)**  **Four easy lifting guard rails, two on either side, which are safe, reliable and fixed upward or downward.**  **Removable, interchangeable, high quality, beautiful, ABS engineered plastic head panel and foot panel. D type design.**  **Epoxy coated mild steel framework & four section perforated top.**  **Circulated central braking system locks/ unlocks all swivel castor simultaneously.**  **Provision for I.V. rods and patient table/trolly for feeding.** | 90 |
| NRS20 | Craniotomy set | **Raneys clip appliny and removing forceps**  **Galea self retaing retractor, spring and hook type**  **Dandy’s curved hemostats( 24 in no. for one set)**  **Adsons forceps toothed 1;2**  **Sergeants dural scissors**  **Metzenbaum dural scissors,**  **Periosteal elevators- straight, angled.**  **Hudsons brace, ball lock system, extension piece,Light weighted, glarefree**  **can be used with disposable cutters, perforators, burrs and trephines of various sizes available in the markets of standard companies.**  **Giggle saw guide and protector, saw handles.**  **Double action Roungers for nibbling bones- straight, side angled, angled to upward and downward.**  **Kerrison’s bone punches- 2-4mm, 45degree and 90degree angled, up bite and down bite.**  **Sr.No. Item Description**  **Micro suction tips in S.S. diff. Sizes set of eight Non-glare finish 1 .5 mm to 5mm 6"**  **Micro suction tips in S.S. diff. Sizes set of eight Non-glare finish 1 .5 mm to 5mm Length -.7"**  **Micro suction tips in S.S. diff. Sizes set of .eight Non-glare finish 1 .5 mm to 5mm. Length: 9½"**  **Kale Long Suction tip 3.0mm, 3.5mm,4.0mm 4. 5mm, 5. Omm working length 12"**  **Micro suction tips in S.S. diff. Sizes set of eight Non-glare finish 1.5 mm to 5mm. 6" Bulbous Tip**  **Adson- lewis dura! dissecting forceps with 2x3 teeth, 127mm (5")**  **Penny backer dissecting forceps with 3x4 Squat teeth, 165mm (6½")**  **Karamchand trephines, with Hudson brace fitting,A. Diameter: 1.5" B. Diameter: 1.75" C. Diameter :2"(5 1mm) D. Diameter: 2¼"**  **Cairns scalp retractor, curved, self-retaining with sharp swivel blade, 140mm (5VV")**  **Schnitker scalp retractor, curved, self-retaining with blunt swivel blades. 140mm (5½")** | 06 |
| NRS21 | Spinal sets | |  |  | | --- | --- | | **Sr.No** | **Description** | | **1** | **Micro suction tips in S.S. cliff. Sizes set of eight Non-glare finish 1 .5mm to 5mm Length :7"** | | **2** | **New design Suction canmila with detachable Tip length 7",8" Bore 21g, 18g** | | **3** | **HOEN Tissue Forceps, 1x2 teeth, bayonet shape, Gutsch handle**  **Working distance : 3" (76mm)**  **Tip width :2.1mm**  **Lenoth :7%" ( 197mm)** | | **4** | **GUSHING Dressing Forceps, serrated dissecting end**  **Length 7" (178mm)**  **A. Serrated Handle Tip Width 1 .5mm** | | **5** | **Cushing Type Tissue Forceps, 1 x2 Teeth, dissecting end**  **Length 7" (178mm) A. Serrated Handle Tip Width 1.5mm** | | **6** | **Metzenbaum Scissors straight with rounded blades, conical points, 241mm (91/2in.)** | | **7** | **Metzenbaum Scissorscurved with rounded blades, conical points, 241mm (91/2in.)** | | **8** | **LANGENBECK, 19.5cm, 7¾", square edge 16mm rib Raspatories** | | **9** | **LANGENBECK, 19.5cm, 7 ¾", square edge 18mm rib Raspatories** | | **10** | **Adson Curved periostea! elevator, 5mm wide** | | **11** | **Adson Curved periosteal elevator, 7 mm. wide** | | **12** | **Adson Curved periosteal elevator, 10 mm. wide** | | **13** | **CLOWARD INSTRUMENTS, Nerve Root Retractor,blade 8mm.(5/l 6 in) wide, length 210 mm (8¼") New Light weight & Malleable design** | | **14** | **Love nerve root retractor, straight blade 5x5 mm** | | **15** | **Nerve hook, single ended, 254 mm (10")** | | **16** | **CLOWARD Lumbar Lamina Spreader# 2, Arm length4¼" (108mm) Total Opening 2 1/8" (53mm)** | | **17** | **Mayo-Adson Laminectomy retractor, hinged arms,4x4 prongs blades, (12½") long.** | | **18** | **Beckman- Adson Laminectomy retractor,self-retaining withhinged arms, 4x4 prong sharp blades**  **Blade Width : 1" (25mm)**  **Blade Depth : 1 3/4"(44mm)**  **Total Opening : 5 ½" (140mm)**  **Length : 12"(305mm)** | | **19** | **Micro Lumbar dissectomy curettes, bayonet shaped, straight, length- 10½", 264mm, size-2.5mm,3.5mm** | | **20** | **Williams Micro Discetomy Instruments are designed to be used in the microsurgicaltreatment of herniated disks.** | | **21** | **Williams Micro Discetomy Instruments are designed to be used in the microsurgicaltreatment of herniated disks.**  **Williams Instruments include:**  **Williams Microlumbar Discectomy Retractor self-retaining wound retraction of deepexposure.**  **Total length 7½"**  **2 cm width,7cm length** | | **22** | **LISTON, Curved on flat 235 mm, 9¼", bone cutting forceps** | | **23** | **LISTON, Straight 280mm, 11", bone cutting forceps** | | **24** | **LUER-STILLE, 225mm, 9",bone Rongeur straight** | | **25** | **Echlin (2 xlOmm), 9", bone Rongeur.** | | **26** | **LEKSELL-STILLE, 240 mm, 9½ "bone Rongeur.** | | **27** | **STILL RUSKIN, 230 mm, 9" Lamnectomy Bone Rongeur 3mm bite curved.** | | **28** | **LUER Type Bone Rongeur**  **Bite ¼"(6mm)**  **Length 7" (178mm)**  **A. Straight**  **B. Curved** | | **29** | **BOHLER Bone Rongeur 2mm bite curved Length6"** | | **30** | **BOHLER Bone Rongeur 3mm bite curved Length6"** | | **31** | **COBB Spinal Elevators**  **Blade Width: 3/8"**  **(10mm) Total Length: 11" (279mm)** | | **32** | **COBB Spinal Elevators**  **Blade Width: 3/4" (19mm)**  **Total Length : 1 1" (279mm)** | | **33** | **COBB Spinal Curette in different size 6mm** | | **34** | **American Pattern Spinal Fusion Curettes, Straight 150mm, (6") 203mm. (Sin) long, inSS hollow handle for lesser fatigue & firm gripping 9 sizes:-Size 00. Size,1** | | **35** | **American Pattern Spinal Fusion Curettes, angled 150mm. (6") 203mm.(8in.) long, in SS hollow handle for lesser fatigue & firm gripping 9 sizes:-Size 1 Size 3** | | **36** | **Scoville ruptured disc curette, straight, 3mm.** | | **37** | **Scoville Modified Ruptured Disc Curette, with a angular cutting edge in order tocurette the cartilaginous plate within the intervertbral disc,254mm (10 in) angular in SShollow handle for lesser fatigue & firm gripping.** | | **38** | **CASPAR Bone Curette,Square shaped toothed, 220mm,8¾"4mm.** | | **39** | **CASPAR Bone Curette,Square shaped toothed, 220mm, 8¾"5mm.** | | **40** | **CHISEL, Straight, Length: 11 "(279mm)**  **A.TipWidth:3/8"(10mm)**  **B. Tip Width: ¾"(19mm)** | | **41** | **CHISEL, Curved, Length:! 1 "(279mm) A. Tip Width: ¾ (19mm)** | | **42** | **Osteotomes, straight , Length: 11 "(279mm)**  **A. Tip Width:3/8"(10mm)**  **B. Tip Width: ¾"(19mm)** | | **43** | **Osteotomes, Curved,Length: 11 "(279mm) A. Tip Width: ¾"(19mm)** | | **44** | **GUSHING RONGEUR 2X10/3MM 6"150mm STRAIGHT** | | **45** | **LOVE- GRUENWALD RONGEUR 3X1 0/4MM 7"! 80mm STRAIGHT** | | **46** | **LOVE- GRUENWALD RONGEUR 3X10/4MM 6"! 50mm 30° UPWARD** | | **47** | **WILLIAMS MICRO RONGEUR**  **2X8MM", 7" STRAIGHT WITH SPIKE FOR BETTR**  **CE MADE IN GERMANY** | | **48** | **CASPAR RONGEUR 3X12MM7-1/4" STRAIGHT WITH LONGHOLE HALF SERRATED** | | **49** | **CASPAR RONGEUR**  **4X14 MM 7-1/4" STRAIGHT WITH LONGHOLE**  **HALF SERRATED** | | **50** | **CASPAR RONGEUR**  **5X1 4MM 7-1/4" 160MM STRAIGHT WITH LONGHOLE**  **HALF SERRATED** | | **51** | **CASPAR RONGEUR**  **6X16 MM7-1/4" 160MM STRAIGHT WITH LONGHOLE**  **HALF SERRATED** | | **52** | **CASPAR RONGEUR**  **5X14MM7-1/4" 140MM 30° UPWARD WITH LONGHOLE**  **HALF SERRATED** | | **53** | **CASPAR RONGEUR 3X12MM7-1/4" 140MM 30° DOWNWARD WITH LONGHOLE HALF SERRATED** | | **54** | **Micro Disc Rongeur 1.5mmx6mm, 180mm (7") working lentgth Straight.** | | **55** | **Micro Disc Rongeur 1.5mmx6mm, 180mm (7") working lentgth upward. MADE IN GERMANY** | | **56** | **Micro Disc Rongeur 1 .5mmx6mm, 1 80mm (7") working lentgth downward. MADE IN GERMANY** | | **57** | **KERRTSON-JACOBY**  **Laminectomy Rongeur 90Deg 180mm. 1mm.**  **Upward** | | **58** | **KERRISON-JACOBY**  **Pituitary punch, 90Deg 180 mm, 1mm.**  **Downward** | | **59** | **KERRISON-JACOBY Pituitary punch, 90Deg 1 80 mm, 2mm. Upward** | | **60** | **KERRISON-JACOBY Pituitary punch, 90Deg 1 80 mm, 4mm. Upward Thin foot** | | **61** | **KERRISON-JACOBY Pituitary punch, 90Deg 5mm, Upward** | | **62** | **FERRIS-SMITH KERRISON 2mm pituitary punch, 1 80mm, 40Deg, Upward cutting.** | | **63** | **FERRIS-SMITH KERRISON 3mm pituitary punch, 1 80mm, 40Deg, Upward cutting.** | | **64** | **FERRIS-SMITH KERRISON 4mm pituitary punch, 1 80mm, 40Deg, Upward cutting.** | | **65** | **FERRIS-SMITH KERRISON 5mm pituitary punch, 1 80mm, 40Deg, Upward cutting.** | | **66** | **FERRIS-SMITH KERRISON 2mm pituitary punch, 200mm, 8"40Deg, Upward cutting. Ultra** | | **67** | **FERRIS-SMITH KERRISON 2mm pituitary punch, 200mm, 8"40Deg, Upward cutting. Thin foot** | | **68** | **FERRIS-SMITH KERRISON 4mm pituitary punch, 200mm, 8"40Deg,Upwardcutting.UltraLight** | | **69** | **FERRIS-SMITH KERRISON 5mm pituitary punch, 200mm, 8"40Deg,Upwardcutting.Ultra Light** | | **70** | **William Spinal frame 1** | | 06 |
| NRS22 | Microsurgery sets | **For cranial and spinal surgery**  **Malleable brain spatulas made of stain less steel or copper length 9” width from 6mm -24mm all sizes in pairs of two.**  **Greenberg tapered blades, Aachen pattern, Heifetz, Olivecrona**  **Microscissors(spring type)- straight, curved –upward and downward, bayonet shaped, yassergill type size various from 6”-10” and suitable for microscopic trans sphenoidal, trans oral surgeries.**  **Micro needle holders- straight, bayonet shaped**  **Micro-forceps, bayonet shaped, yasergill, plain and toothed1x2. Tip from 0.6mm-2mm**  **Tumor grasping forceps, yassergill1mm-5mm, 9”**  **Arachnoid knife jacobsons**  **Penfield dissectors no 1-5**  **Keyhole suction tips in stainless steel non glare finish, 1mm-5mm, tapered, plain and bulbous tips, extralight weighted, ergonomically desighned, detachable and adjustable tips for various angles during surgery.**  **Malleable suction tips to contour repeatedly according to the surgery.** | 06 |
| NRS23 | Cautery machine | **SHOULD HAVE MONOPOLAR CUT & COAGGULATION, BIPOLAR & VESSEL FUSION TECHNOLOGY INTEGRATED IN ONE SYSTEM.**  **Should take 3000 decisions /sec on real time basis, identify tissue type and adjust the power to get desired surgical effect on the tissues.**  **Should have max. PER(power efficiency rating)**  **Mponopolar output should have pure and blend modes,also hemostasis with division mode.**  **two coagulation modes- fulguration and spray.**  **Three bipolar modes (with max power of 95W)- low, standard, macro modes, auto bipolar start and stop and user can set auto time for auto start and stop.**  **LCD backlight adjustment for display.**  **Audio-visual error alarms**  **Both hand and footcontrols for all modes of mono, bipolar and vessel fusion**  **Universal adoptors should be provided** | 08 |
| NRS24 | Bipolar forceps isokool | **Bayonet shaped, different lengths 6inch-10 inch, tip 0.8mm-2mm,**  **Tips of nonsticking alloys with long durability for using multiple no. of times in different patients.**  **isocool technology, irrigation system with foot control.** | 10 |
| NRS25 | Suction machine | **High vacumn suction with two jars of 2 liters capacity.**  **Auto cut off device for preventing entry of fluid in pump.**  **Heavy duty, noiseless 45db+/- 3 dbwith ss top ms body epoxy powder coated.**  **adjustable smooth vacumn control knob guage type 100mm diameter 0-76**  **overflow safety device.**  **220-250VA C 50 Hz**  **mounted on suitable trolley/ stand**  **removable filters** |  |
| NRS26 | Head lights | **XENON LIGHT SOURCE**  **Xenon 300 1**  **Xenon Light Sources 300 watts, Lamp type:- Xenon 15V, 300 Watt**  **Color Temperatures 6000K, Light Outlets -**  **Light Intensity Adjustment:- Continuously adjustable either manually or**  **automatically by cameras video output signal.**  **Certified To :- IEC 601-1 & UL 544 CE According to MOD , protection class 1/CF**  **Fibre Optic Light Cable**  **Thickness 4.8mm Length 300 cms** | 06 |
| NRS27 | OT lights | **Double dome major dome 160000lux at 1 m, satellite dome 90000lux at 1 m**  **Led technology**  **Depth of illumination minimum 1350mm**  **Illumination /irradiance should be min. 3.5W/m2lx**  **Working column min of 700mm**  **Console and remote control for adjusting light intensity and focus.**  **Relevant safety standards, ISO certified, FDA approved, CE marked** | 12 |
| NRS28 | Lyell’s flexible arm and table attachments | **Flexible arms in satin finish.**  **Fixation base for skull mounting, holding one or two flexible arms.**  **coupling head to take 1-5 flexible arms.**  **Coupling head turnable, fixed in any position, one flexible arm or many coupling head can be attached.**  **Coupling head equal to N001B but laterally open, can be fixed to any position on holding rod**  **Ball & socket joint to fix holding rod N-001D to pole of operating table max. 9x32mm**  **Holding rod in one or two pieces for fixation in ball & socket joint and take coupling head.** | 04 |
| NRS29 | Gardener’s skull traction | **Compatible with CT/MRI for intraoperative neuroimaging** | 02 |
| NRS30 | Trans-spenoidal and trans oral surgery set | **1. TRANSORAL**   |  |  | | --- | --- | | **Qty.** | **Product Description** | | **1** | **Weder Tongue Depressor** | | **1** | **Right Clip Forceps** | | **1** | **Left Clip Forceps** | | **1** | **Regular Metzenbaum 7¨ Scissor** | | **1** | **8” {Long Suture} Sims Scissor** | | **1** | **9” Vascular Needle Driver** | | **3** | **6¼” {Kelly} Rochester – Pean** | | **2** | **7¼” {Criles} Schmidt Clamps** | | **2** | **Curved Allis** | | **4** | **Towel Clips- Non Penetrating 3½”** | | **3** | **Baby Yankauer Suction** | | **1** | **Tongue Blade Curved 22cm (for all applications)** | | **1** | **Tongue Blae Curved to Right, 22cm** | | **1** | **Tongue Blae Curved to Left, 22cm** | | **2** | **Cheek Retractor, flexible,22.5cm** | | **1** | **Wollenberg Laryngeal Blad, concave,17cm** | | **1** | **Wollenberg Diverticuloscope Blade, concave,22cm** | | **1** | **Simon Mandible Blade, 14cm** | | **1** | **Crow-Davis Moute Gag Right** | | **1** | **Crow-Davis Moute Gag Left** | | **1** | **Jennings Mouth Gag** | | **1** | **Side Biting Mouth Gag/Sluder jansen Mouth Gag** |   **3. Transsphenoidal Instrument Set**   |  |  | | --- | --- | | **S.N.SSS S.N.** | **Description** | | **1.1 1 1.** | **Killian Speculum, Self Retaining Screw,76×7mm** | | **2 2.** | **Papavero-Caspar Speculum, Slim-profile, 90×13mm** | | **3.** | **Frazier Suction Dissector, 7Fr,165mm** | | **4.** | **Freer El Elevator, 185mm** | | **5.** | **G # # #4 Penfield Dissector, 203mm** | | **6.** | **Atraumatic Suction Tube, 7Down,90 Degree, 215mm** | | **7.** | **Atraumatic Suction Tube, 7Up, 90 Degree, 215mm** | | **8.** | **Atraumatic Suction Tube, 10Up, 90 Degree, 215mm** | | **9.** | **Full Size Lid, 544×257mm** | | **10.** | **Cottle Mallet,184mm** | | **11.** | **Papavero Bayoneted Chisle, Straight,4mm,229mm** | | **12.** | **Landolt Bi-PolarForceps,90 Degree** | | **13.** | **Landolt Bi-PolarForceps,120 Degree** | | **14.** | **Hardy Enucleators, LeftBend,Blunt Left,245mm** | | **15.** | **Hardy Enucleators, Right Bend,Blunt Left ,245mm** | | **16.** | **Hardy Enucleators, Left Bend,Sharp Left ,245mm** | | **17.** | **Hardy Enucleators, Right Bend,Sharp Left ,245mm** | | **18.** | **Landolt Hook, Blunt 260mm** | | **19** | **Landolt Reulen Hook, Blunt 1.7mm,261mm** | | **20.** | **Landolt Dissector ,2mm,260mm** | | **21.** | **Landolt Raspatory, 3.2mm,260mm** | | **22.** | **Baby Senn-Miller Retractor,Blunt** | | **23.** | **Nicola Malleable Curette,260mm** |   **//2//**   |  |  | | --- | --- | | **241 24** | **Kerrison, 40Up, 2mm,Thin Footplate, 180mm** | | **2 25** | **Kerrison, 90Up, 2mm,Thin Footplate, 180mm** | | **26** | **Kerrison, 90Down, 2mm,Thin Footplate, 180mm** | | **27** | **Kerrison, 40Down, 2mm,Thin Footplate, 180mm** | | **28** | **Cushing Rongeur, Straight,2×10mm,180mm** | | **29** | **Cushing Rongeur Up Bite, 2×10mm,178mm** | | **30** | **Cushing Rongeur, Down Bite, 2×10mm,178mm** | | **31** | **Caspar Rongeur, Straight, 2mm, 155mm** | | **32** | **Love-Gruenwald Rongeur, Straight 3×10mm, 180mm** | | **33** | **Love-Gruenwald Rongeur, Up Bite, 3×10mm, 180mm** | | **34** | **Nicola Micro Scissor,Scoop Shape, 165mm** | | **35** | **Rotatable , Ring Curette,Blunt, 45Degree, 3mm, 265mm** | | **36** | **Rotatable , Ring Curette,Blunt, 45Degree, 5mm, 265mm** | | **37** | **Rotatable , Ring Curette,Blunt, 90Degree, 3mm, 265mm** | | **38** | **Rotatable , Ring Curette,Blunt, 90Degree, 5mm, 265mm** | | **39** | **Rotatable ,Ring Curette,Sharp, 45Degree, 3mm, 265mm** | | **40** | **Rotatable, Ring Curette,Sharp, 45Degree, 5mm, 265mm** | | **41** | **Rotatable, Ring Curette,Sharp, 45Degree, 3mm, 265mm** | | **42** | **Rotatable, Ring Curette,Sharp, 90Degree, 3mm, 265mm** | | **43** | **Rotatable, Ring Curette,Sharp, 90Degree, 5mm, 265mm** | | **44** | **Rotatable ,Knife Handle, 255mm** |   **//2//**  **Transoral Neuro Surgery Instrumets**   |  |  | | --- | --- | | **Sr Sr. No.** | **Item Description** | | **1** | **Frame for Transoral retractor,Crockard. 15cm/6”×7cm/2.75”** | | **2** | **Tongue Retractor Blade,Large Crockard.190mm.Length 15cm** | | **3** | **Tongue Retractor Blade,Small Crockard.175mm.Length 15cm** | | **4** | **Retractor Blade.90Ø.20mmW/40mmD.Le nght12.5cm.** | | **5** | **Retractor Blade.Curved.12mmW/40mmD.Le nght 12.5cm.** | | **6** | **Universal Connectors for retractor blades.17mm.Length 32 mm.** | | **7** | **Suction Tube Holder.Short.Crockard.17mm.Length 40mm.** | | **8** | **Suction Tube Holder. Long .Crockard.17mm.Length 50mm.** | | **9** | **Hard Palate Retractor . Crockard .** | | **10** | **Pharyngeal Retractor . Small .** | | **11** | **Pharyngeal Retractor . Large .** | | **12** | **Odontoid Peg Grasping Forceps .** | | **13** | **Crockard Ligament Forceps .** | | **14** | **Fcps. , Prostatic Capsule “T”. Millin.23cm/9”.** | | **15** | **Fcps., Vulsellum for capsule. 10mm jaw with 8×9th. Angular . Millin . 23cm/9”.** | | **16** | **Fcps., Ligature Carrying. Millin . Angular.23cm/9” .** | | **17** | **Fcps ., Nasal Turbinate . Luc . Oval . Large 19.0mm. 19cm/7.5”** | | **18** | **Fcps ., Nasal Turbinate . Luc . Oval . Medium 17.5mm. 19cm/7.5”** | | **19** | **Fcps ., Nasal Turbinate . Luc . Oval . Small 16.0mm. 19cm/7.5”** | | **20** | **Fcps ., Bone Cutting . D/A Tudor-Edwards. Rib Cutting. CCv. 27cm/10.75”** | | **21** | **Nibbler/Rongeur, Stille-Leksell. 5mm-jaw 23cm/9”** | | **22** | **Punch,Disc. 2mm×10mm. Cushing. Str . 18c m/7”** | | **23** | **Punch , Disc. 2mm×10mm. Cushing . Ald. Up 4 5Ø. 18cm/7”.** | | **24** | **Punch, Disc . 2mm×10mm. Cloward . Serr . Ed ges . Str. 18cm/7”.** | | 01 |
| NRS31 | Surgeons chair with arm rests | **Paddle controlled/remote controlled adjustments for height of the seat, wheels for swift moving and also wheel locks for staying in a position.well cushioned seat.**  **Arm rests with adjustable heights and angles for resting forearms while lengthy and tedious surgeries.** | 02 |
| NRS32 | High definition camera | **The system should be truly Digital HDTV endoscopic video camera. The system should have the maximum Resolution of 1920 X 1080 pixels, progressive scan and the consistent use of 16: 9 formats for Input & Output to guarantee genuine HDTV.**  **The system should have Special Features:**  **•Visibly Improved Imaging: CCD sensing chip should optimizes image quality & Digital Source Sampling thus maximizing hi-fidelity image transmission.**  **•Optimizes to Any Size: The system should have Optical Zoom to enhance the quality of Image size & cross specialty standardization of the camera system, regardless of the telescope used.**  **•Plug and Go: The system should automatically optimize all settings. The system should be ready- to-use as soon as it is connected to the camera control unit.**  **•Any Head- Any Time: The system should have the facility to use a single camera control unit for ail camera heads ( either single chip or three chip) thus minimizing preparation & maximizes interspeciality standardization.**  **•The system should have USB port to capture still images in Full HD resolution as well as Video Sequences in SD to a USB mass storage device**  **Camera system should be compatible with Communication Bus system for remote controlled operation of the various features of the camera along with other equipment. . Technical Specifications:**  **Image sensor : 3X1/3" CCD-Chip.**  **Pixels : 1920 x1080**  **AGC : Microprocessor controlled**  **Lens : Integrated Zoom Lens**  **Video output : Composite signal to BNC socket.**  **Y/C signal to S-VHS socket (2 x).**  **RGB signal to D-sub socket**  **HDTV signal to DVI-D socket**  **Input : Keyboard input for character generator. 5-**  **pole DIN socket.**  **Control Output/Input**  **3.5mm Stereo Jack Plug ( ACC1, ACC2)**  **Serial Port at RJ-11**  **USB Port with ICM (2x).**  **Mains Cord**  **BNC/BNC Video Cable Length 180 cm**  **S-Video (Y/C) Connecting Cable Length 180 cm**  **Special RGB Connecting Cable Length 180 cm**  **Connecting Cable for controlling peripheral units length 180 cm (2)**  **DVI-D Connecting Cable Length 300 cm**  **Keyboard with US English Character**  **Power Supply:- 100-240 VAC 50/60 Hz**  **Certified to: IEC 601-1, 601-2-18, CSA 22.2 No. 601, UL 2601 and**  **CE according to MOD, protection class1/CF**    **Digital Monitor : FOR HD CAMERA.**  **Special Features**  **HDTV Display in original 16: 10 HDTV format**  **1080p/50 and 1080p/80 display possible**  **On Screen menu for monitor setting (possible in several languages)**  **Liquid crystal display**  **Max Resolution 1920/1200 Pixies**  **Anti reflection coated front glass**  **Easy to access control buttons on the housing front.**  **Dripwater protected, dustproof housing**  **Low voltage protection via external 24VDC Mains power supply.**  **Picture in Picture display (PIP)**  **Mirror Imaging Possible**  **Upto 5 different users profiles can be stored**  **Medical grade FDA, UL and CE Approval.**  **Specifications**  **HD TFT Flat Screen Monitor with stand size 26",**  **Aspect Ratio 16:10 HD format, Brightness: 500 cd/m2**  **Max Resolution 1920/1200 Pixels**  **Maximum viewing angle: 178° vertical**  **Contrast ratio: 800: 1, Rated power: 115 watts**  **Power Supply 100-240 VAC, Screen Dimensions: 627 x 427 x 100mm**  **Video Inputs: S- Video signal to 4 pol. Mini DIN socket, RGB signal to 5 x BNC socket.**  **Composite to BNC socket, HD-SDI signal to BNC socket**  **DVI signal to DVI-D socket, SDI signal to BNC socket**  **Accessories External 24VDC Power Supply, Mains Cord, Pedstal.**  **Certified to : EN 60601-1, protection class IPX** | 06 |

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| OBSTETRICS AND GYNAECOLOGY | | | |
| Sr. No | Name of Equipment | Specification | Total |
| OBG1 | Colposcope | The video colposcope must have magnification from min. 1x to max. 40x.  Magnification Indicator should be on the video colposcope  Resolution must be > 825 lines (Std.) > 1,000 lines (Gamma on)  No of pixel should be 12,00,000  The image sensor must be 1/6 “ microlens color CCD with high speed Digital Signal Processing  High MCD super bright white shadow less LED light for true colour reproduction  Colour temperature should be 70000 K, light source life should be minimum 5000 hrs  Auto focus range should be up to 30-40 cm  Facility for fast focusing zooming, light source, image freeze using thump on the hand held unit itself  Should be with E-flip & Mirror image function to ensure extended attention and perfect diagnosis  Acetic test timer and magnification indicator should be displayed on screen  There must be Electronic Green filter in the hand held unit without decrease in illumination  Control panel should have feather touch and water proof buttons. Facility for fast auto/manual focusing. Internal image freeze function facility. There should be two built in Video output – BNC & SVHS on the unit. Company should provide Colposcopy image Management Software with computer with following facilities. Upgradable software. Masking facilities. Image capturing while recording/playing. Final reports with one, two, three & four images with facility to adjust height & width of images. Reference: images with finding for comparison. Facility to save & send the report through e-mail in pdf format. Facility to get referral linked images. Online support facility (through internet) for software  Colposcopy software should run on both window XP & Vista operating systems  Colposcopy assisted dynamic cases  Facility to take colposcopy images with the colposcopy report on hard copy Facility to store still images, cine loop or procedure on CD  Company have to provide trolley for personal computer  Colposcope should be CE, ERTL & ISO certified  Colposcope should be operated through remote control also  Colposcope should be equipped with Gamma Processor to enchance vascular structure  Colposcope should have Remote Control facility | 04 |
| OBG2 | CTG Machine | Continuous monitoring of FHR, Toco& Foetal movements with trace on LCD  FHR display with beat to beat monitoring with auto correlation technique using EMEBREDDED Technology for computation of the FHR in B.P.M.  Graph on LCD & Dot –matrix printer using plain paper  Annotation of Hospital & patient details  Memory of 8 – 10 hours /20 patients  Automatic TOCO zero  Tachycardia & bradycardia alarms  Multi crystal ultrasound Transducer & digitally controlled feather touch keys  Technical Data-  FHR Probe : Large 50 mm diameter transducer  Operating Frequency: 2MHz  Fetal Heart Rate: Measurements Range: 60-220 BPM  Uterine Contraction: External : Toco Transducer  Event Marker: Hand held, patient operated  Dimensions: 380 (W) Χ 100 (h) Χ 330 (d) mm  Printer: Type : 80 Column dot matrix printer  Voltage: 230 V A.C+/- 10% 50 Hz | 11 |
| OBG3 | Operating Laparoscopy Set | Telescope 10 mm- 0 degree  Telescope 5 mm-3 0 degree  Specification   * High speed rod lens system * Scratch resistant * Adaptability to high intensity Xenon light 300 watts   Trocar size 5/6mm- 4  Trocar only, with pyramidal tipcannula without valve, with insufflations  Trocar size 10/11mm- 4  Trocar only, with pyramidal tipcannula without valve, with insufflations stop –clock, length 10.5 cm  Reducer 11/5 mm- 4  Coagulating & Dissectuing Electrode, L- shaped, with connector pin for unipolar coagulation, size 5 mm, sorking length 36 cm- 01  Click Line Grasping Forceps, 2Χ4 teeth, rotating with connector pin for unipolar coagulation, size 5 mm, length 36 cm, double action jaws- 01  Click line KELY Dissecting & Grasping Forceps, rotating with connector pin for unipolar cogulation, size 5 mm, length 36 cm, double action jaws- 01  Bipolar Grasping Forceps  Maryland dissector curved with fine horizontal serrations double jaw.  size 5 mm, length 36 cm  high frequency cord for bipolar instruments; length 300 cm  fiber optic light cable, size 4.8 mm, length 250 cm  endovision Cemra 3 chip  color system power supply : 100-240 VAC, 50-60Hz  suction & irrigation cannula 5 mm & 10 mm  verees pneumoperitonneum needle  metzenbaum scissors with connector pin for unipolar coagulation- Straight, Curved  Monopolar high frequency cord- 01  PCOD Needle- 01  Uterine manipulator (Colptomizer) 01  Needle Holder Pistol Grip, Tungsten Cardiile Straight & curved jaws- 02  Post closure (Small Mochi) 01  Knot Pusher 01  Babcock's Laparoscopy forceps –20 mm  Endobag - 01  DVD Writer- 01 | 8 |
| OBG4 | LCD screen (Monitor) with trolley | LCD screen 14” x 12”  pTrolley—Fiber polyester, laminated Shelves-4, Height-150cms, width-72,depth-75cms  Connected wiring, switch panel fiber drawer, epoxy powder | 03 |
| OBG5 | Digital CO2 insufflator | -Flow rate-1 to 30 lbs/min  -Output connection 4to 5mm 1D tube  -Maximum input pressure 7 BAR  -Minimum input pressure 2 BAR | 03 |
| OBG6 | LED Light Source | Lamp life –Up to 50 000hrs  Plug for light Guide Cable-standard | 06 |
| OBG7 | Underwater cutting and coagulation cautery for hystero and laparoscopy (Electro surgical Unit) | * Very accurate output as required * Useful for all types of underwater cutting procedures * Works through foot switch as well as hand switch * Independent adjustment of power * Automatic cut off circuit * For all modes audio – visual indication * Conventional cooling to power transistor * 4 cut modes pure cut and 3 blended modes * 4 regulation mode: spray, desiccate, fulgurate, force regulation current. * Separate bipolar output * Feather torch circuits * Power supply : 230v Ac, 50 Hz * Pure cut : 400w + 10% * Blend 1 : 250w + 10% * Blend 2 : 200w + 10% * Blend 3 : 150w + 10% * Spray coagulation: 120w + 10% and fulguration | 03 |
| OBG8 | Laparoscopy Trolley and documentation system | Overall approx size 680mmLx700mm Wx1570mmH  - Suitable for keeping monitor light source camera unit printer and other peripheries of endoscope  - 5 Shelve Top shelf of size 640Χ450 Χ(LXD)  - Other four self size must be 510 mm L Χ 450D  - Self must be adjustable at desire hight  - Ms drawer at bottom  -Aesthetically design vertical upright of aluminium extrusion & aluminium alloy base fitted with 125 mm imported castor wheel two with brakes  Castor Housing & wheels made high grade non floor staining synthetic material with integrated thread guard wheel center having precision ball bearing to run smoothly   * Trolly must have provision for socket of S/15 amps – 230 Vac 3 pin plugs * Each out put on- off switch with indicator & safety fuse * Trolley must have provision for handless   SS IV ROD & gas Cylinder cage mounted on swivel castors 50 mm dia  All MS part are pre treated and powder coated finish  Trolley must be supply with built in key board on shelves camera holder  TV Monitor – 19 “ preferably holder | 3 |
| OBG9 | Operating Hysteroscope Set | Telescope should be 4mm, angle of view should be 30 degree, 70۫ & 0۫ working length should be 300mm, it should be autoclavable & wide angled  - Continuous irrigation sheath should be for 7Fr. Instruments, ramp for deflection of instruments, auomatic connection, rotable outflow & automatic sealing device for instrument channel  - Examination sheath should be 15 Fr. working length should be 225mm with opening at the distal tip Ergonomic handle  - HF Monopolar connecting cable, length should be 300 cm  - Rigid Biopsy grasping forceps 7fr, working length should be 335mm  - Rigid hooked scissors 7fr. ,working length should be 335mm  - Button electrode flexible, monopolar, 6 Fr. Working length should be 400mm  - Working element should be easy to use  - It should be with passive cutting action, suitable for 4mm telescope  - Outer Continuous Irrigation Sheath “E- line” rotatable 26Fr.  - It should be suitable for Continuous irrigation double sheath system, with automatic locking mechanism, mechanism; material :titanium /stainless steel  - Inner Continuous Irrigation Sheath “E- line” rotatable 26Fr.  - It should be suitable for Continuous irrigation double sheath system, with automatic locking mechanism, straight distal tip & distal ceramic insulation ; and rotatable connecting  - Ball electrode barrel shaped, it should be suitable for sheath from 22 Fr. Upwards & Telescope 4mm, 12 & 25 degs  - Loop electrode with 0.8mm loop  - Single Chip Cemra  -1 CCD ENDOCAM, PAL colour system, snsisting of camera controller  -1CCD Camera head with C- mount adaptor, BNC Video cable m long  - 250 watt Halogen light source  - Fiber Optic Cable  - Length should be 2,3m  - Dia should be 4,5 mm  - Hysteromat  - Pressure range should be 15-150mm Hg  - Delivery rate should be 150-500ml/min  - It Should be compact & light weight  - It Should be with all standard accessories  - Computerised recording and editing device  1.Telescope   1. Forward oblique telescope 30; enlarged view, 4 mm, length 30 cm 01 2. Office telescope 01   2.continous flow examination and operating sheath for hysteroscopy-  a.diameter 5.1mm to 7mm with luer lock adapter.  3.Operating Instrument  Semirigrid Operating   1. Biopsy & grasping forceps, double action jawa, 5 fr, length 34 cm - 02 2. Scissiors, blunt, single action jaws, length 34 cm - 02 3. Punch through –cutting single action jaws, length 34 cm- 02 4. Myoma Fixation Instrument, 5 Fr, length 34 cm- 01 5. Biopsy forceps- double action jaws, 7 Fr, length 40 cm- 02 6. Grasping forceps, double action jaws, 7 Fr, length 40 cm- 02 7. Scissors , single action jaws, 7 Fr, length 40 cm- 02 8. Electrodes & Loops- 5 Fr & 7 Fr- 01 Insufflation Bag for 1 ltr fluid 02   Insufflation Bag for 3 ltr fluid 02  4.Hysterscopic fluid m/m system – Endomat set – 01  Endomet wth intergrated SCB  Power cord  Connecting cable  3 tubing sets irrigation  Vacusafe pack suction-  A suction Tubing  B Suction bottle  C bottle caps  D holder for suction bottle  5.High frequency cord   * Unipolar * Biopolar | 08 |
| OBG10 | **Hysteromat** | Flexible hysteroscope with operating accessories :- Scissor 02  Grasper 02  Allis forceps 02 | 03 |
| OBG11 | ETCO2 Monitor | The Monitor system should be US aproved for quailty Assurance  The Modular should be modular in Design for easy replacement  Monitor should be modular in design for easy replacement of modules by users  Monitor should be mesire 12 lead ECG, Resp, Temprature, SpO2modular in design for easy replacement of modules by users  It should have bright, highly visuble touch screen with 12.1” color TFT display touch screen for easy viewing from a distance  The moniotr should display atleast 8 wavefroms traces on a single screen  The moniotr should have upto 12 slots for moduaes for flexible Configration  The moniotr should have changeable screen configuration for various monitor setting.  The size of Numeric should be adjustable  Should be capable of on site up gradation for EtCo2, C.O., AG, BIS, RM, ICG, There should be alarm limitsetting for every parameter | 07 |
| OBG12 | LED ceiling light with cover(white light) | Technical data-  Reflector system 4  Illumination intensity 140000 LUX.  LED servie life 50,000 hrs  Color temperature 5,500 K  Colour rendering index 90 Ra  Temperature increase in surgens head area<2 deg centigrade  Index light spot 200-250 mm  Brightness adjustment- nearly 0%-100% from panel or remote control  Power 230 VAC/50/60 HZ | 04 |
| OBG13 | Advanced Electro Surgical Unit with  Vessel Sealing | Should be able to coagulate vessesls upto 7 mm  Should contain seal foot paddle as well Bipolar foot paddle  System feedback mechanism providers audible tone wen successful seal cycle is complete  Instrument have option of hand control with sealing & dissection in both 10 mm laparoscopic handsets  Indicator for Re- Grasp should be activated as necessary  Seal strength should be measured by the Bar indicator on the system generator  System should be compatibale of return electrod monitoring polyhesive contact quality monitoring system  System should be US FDA approved  Accessories –  Laparascopic sealer instrument with Shaft Diameter 5 mm, Shaft rotation<180 dg  Laparascopic sealer instrument with Shaft Diameter 10 mm, Shaft rotation<360 dg  Standard Instrument for open procedure resection with instrument length 18 cm, Jaw angles= < 30 deg.  Sealer devider for open procedure with instrument of shaft diameter 10mm, cm, Shaft rotation<360 dg Jaw angles straight  Connector Adaptor for normal bipolar attachement | 02 |
| OBG14 | D & C Set – | Hegar dilator –  Spong holding forceps- 2  Curette – 2 Blunt Sharp- 2  Allie Forcep -2  Sims Speculm – 2  Anterior Vaginal Wall Retractor -1  Ovum Forceps-1  Vullsellum -1  Uterine Sound-1  Small Bowl- 2  Kidney Tray- 1 | 16 |
| OBG15 | Electronic Weighing Machine | Adult Electronic –  New born- | 10  10 |
| OBG16 | Vaginal Hysterctomy Set | Galicups (M) - 2  Kidney Trays (M+ Big)- 2  Sponge holders- 3  Needle Holder 2 (1 S+1 Big)- 2  6” curved artery forceps 1 set (6 No)-6  6” curved artery forceps 1 set (6 No)-6  6” Allys forceps 1 set (6 No)-6  Babcocks 2 No.s- 2  Kockers (cd) forceps 2 Nos, straight 2-4 long cd artery (6 No)- 6  Long Allys forceps 1 set (6 No)- 6  Deavers retractor Small – 2  Kellys vaginal retractor -1  Suction Cannula – 1  Myoma Screw-1  Cross action towel clips- 8  Mohnians towel clips – 6  BP handels- 2 (22-1)  Nontoothed dissecting forceps- 2  Ntoothed dissecting forceps- 2  Mayo’s curved scissors- 2  Mayo’s straightscissors- 1  Mosquito curved artery forceps – 6 nos  Mosquito Straight artery forceps – 6 nos  Metal Urethral Catheter- 1  Bladder sound 1  Sim’s Speculum- 1  Miyas Hook  Illuminated Sims Speculum wth fibre optic attachement wth fiber optic cable  Light Source (Halogen) 250 Watt | 15 |
| OBG17 | Digital High Definition Video Recording System and documentation system | |  | | --- | | HDMI-1XHDMI | | Component -1xYPbPr | | Composite-1xRCA/CvBs | | Video Format-H.264 AVCHD M2TS | | Image Format- JPEG | | File System-FAT32 | | 6 |
| OBG18 | Three Chip camera head & focusing coupler | Resolution -3x752x582  Definition-1155lines  Sensitivity-0.18Lux  Signal to noise ratio-75db  Electronic shutter-1/100 000 sec.  Video outpurs-1 BNC, 1 RGB, 1 Y/c | 1 |
| OBG19 | Suction Machine | HP Quarter (0.25HP) with all standard scope of supply  Motor must be of Crompton Greave | 4 |
| OBG20 | Pulse Oximeter with plathysmography | Graphic LCD display for plethysmograph  LED display of SPO2 & pulse rate range 20-26 BMP  SPO2- range 0- 100%  -accuracy + 2% for 50-100  Easy menu driven operation  Main & battery operation  User settable audiovisual alarms  -Alarm SPO2 high/low 40-100 pulse rate – high low 20-240  -24 hrs trend memory  Varying tone with change in SPO2 value power 230 VAC/50 Hz  Battery L1-10 n , 7.2v/1.6 Ah  -changing time 8 hours  - power consumption 3W | 10 |
| OBG21 | Microscope binocular | Diopter adjustment rincg on ocular tube  Built-in-base illumination system  Eye piece- EWF 10XFOV 18mm  Objectives- E-Plan Achromatic 4x  -E-Plan Achromatic 10x  -E-Plan Achromatic 40x (SL)  -E-Plan Achromatic 100x oil (SL) | 6 |
| OBG22 | Shadow less mobile side lamp for O.T. | * single reflector mobile halogen OT * Light completely spring balance with reserve halogen bulb. * concealed transfer * intensity control and main switch with voltmeter provided on front panel * effective heat absorbing colour correcting felter provided for cool white and brilliant light field * pre-treated epoxy powder coated * light intensity –50,000 lux * halogen bulb : 1 X 24V 150 W | 5 |
| OBG23 | Ultrasound with Doppler and in-built printing and recording system | Capable of processing and displaying 3D rendering of 2D images  Broadband multifrequency Tranducers-convex (abdominal) and TVS  Include a full complement of measurement and calculation package  Digital Ultrasonic System  T issue Harmonic Imaging  Software package along with format for Ob & Gy  Real time dynamic ROF, RDA, DFP, DRA.  \*permanent inbuilt + USB images storage  >256 frame line loop.S  Ergonomic keyboard  -back lit keyboard + direct printing, 6 STC slides for easy adjustment  -multifunction knob + toggle for quick adjustment  Scanning method – Electronic convex / Linear / Microconvex  Display modes – B, B/B,UB, M, B/M  Gray scale  Probe frequency 2.5 MHz – 9.0 MHz  Monitor - Zoom , Multi step  Image processing & reversing  Power supply Ac 230v + 10%, 50 Hz  Standard - main unit + convex printer + 2 probe connector + USB ports + VGA Port (extra transvaginal probe) + inkjet printer  Trolley, Biopsy kit  Multidisciplinary ultrasound color Doppler with pulse wave -spare part with ultra sound modem  -Beam former board  -Transmitter board  -Receiver board  -Digital scan converter board  -Power supply unit  -Pobes X 2 | 06 |
| OBG24 | Spermfuge machine | 1. Adgustable brake three modes in accelaration &  braking  2. Different program for different application – RCF,RPM,Tube size, temprature, time for each program by a digital a cedar  3. G – Force for ideal sperm pellet formation | 1 |
| OBG25 | Caesarean set | Fcps, Spong. Big loop. Forester. Str. 25 cm/10”  Kidney tray as 12”  Kidney tray as 8”  Kidney tray as 6”  Bowl as 3 “  Bowl as 3.75 “  Clip, Towel X- Action. 8cm/3.25”  Scalpe/BP Hnandle. 14 cm No. 4  Fcps, Dsctg Sup. 3mm 1Χ2 Tth 15 cm/ 6”  Fcps, Dsctg Sup. 3mm 1Χ2 Tth 20 cm/ 8”  Fcps, Dsctg Sup. 3mm 1Χ2 Tth 15 cm/ 6”  Fcps, Dsctg Sup. 3mm 1Χ2 Tth 10 cm/ 8”  Mayo Scissors fine. Str 16.5 cm/6.5”  Mayo Scissors fine. Cvs 16.5 cm/6.5”  Fcps, Green- Armytage- 20 cm/8”  Fcps Obs. Low. Wrigely Cvd 28 c  Fcp Non- tooth 10”  Fcp artery mosquito Cvd 12.5cm/5”  Fcp artery Sp wells Str. 20 cm/8”  Fcp artery Sp wells cvd. 15 cm/6”  Fcp artery Sp wells Cvd. 20 cm/8”  Fcp Allis tissue 4 Χ5th 15 cm/6”  Fcp Allis tissue 4 Χ6th 15 cm/8”  Fcp Allis tissue 4 Χ5th 15 cm/6”  Fcp Allis tissue 4 Χ5th 20 cm/8”  Fcps Kocher Artery cvd 8 “  Fcps Kocher Artery Str 8 “  Needle holder Dabakey H/T 6”  Needle holder Dabakey H/T 8”  Cannula Suction Yankuer CP 27 cm  Ret. Doyens 60 mm WΧ45 mm D GVD cvd 9.25”  Fcps Sterliz. Cheattle 20 cm.8”  Fcps Sterliz. Cheattle 20 cm.10” | 22 |
| OBG26 | Delivery Set | Episiotomy Scissor - 1  Long Artery Forceps- 2  Sponge Holding – 2  Tooth Forceps Needle Holder – 1  Small tray for making delivery kits(SS) | 70 |
| OBG27 | IVF Instrument | 1- Binder Air Jacked CO2 Incubator with IR Sensor Special :  Capacity 150 Ltrs  Four Inner Glass Doors to saveloss of CO2 gas  System to achieve Maximum relative Humidity & Dry Inner Walls  Stainless Steel interior  Standard Inner 4 Door  Fan free Interior – Prevents building up of Germs  Perforated shelves for uniform heat distribution  Air Jacketed  LCD Display  Hot Air auto sterilization (187.5C)  2. Integrated Laminar flow hood with heated table the integrated Laminar system is Often built in vertical laminar flow cabinet. The utensils are warmed by heating A part of the table by means of special heat Exchanger controlled  3. Stereo Zoom Microscope  Zooming Body  With Diopter adjuster, rubber eye shield, reticle lead  Diascopic stand C-Ds Diascopic stand S with reflecting lead  Power Cord BE  6 V- 20 W halogen lamp with reflector  CDs- 33 mm NCB 11 filter  4. Rocket of London Craft Ovum Aspiration pump with Foot operated Switch with Vacuum gauge & regulator  Specification  Low Pressure: 0-550mm  Hg= 0-666  Mbar  Volume of overflow vessel: 2Χ100  Connecting for aspiration tubing 2 to 4mm  Power Supply : 230 V  Power Frequency : 50/60Hz  Power Point : 50 VA  Nominal Current: 220 mA  Power Line isolation : 0.315  5. Indian Pressurizing Module  Pressuring Module is used to create the positive inside culture lab  Tech specification  Pressure: 250 CFM  Construction: Liminated board  Filtration: 0.3 μ  Efficiency : 99.97%  Construction : S.S body  6. Digital Cell Transporter with steel body heating Block for heating of test tubes in removable, autoclave anodized aluminum blocks for maintenance of required temp. Digital display & control of temp. with + 0.2C accuracy from ambient to 11 c, 3 anodized blocks of 75Χ 50Χ50 mm to accommodate 12Χ13 ml and 12Χ6 ml tubes .  7. Petri –Plate Prewarmer with Steel Body for preheating of slides, Petri dishes, pipettes etc. of desired temp.  Anodized aluminum heating plate  (Approx dimension 300 Χ100 Χ40mm)  Temp range: from ambient to 1000C with accuracy of + 0.20C  8. Microscope Stage Warmer with Steel Body for maintaining the temp of critical biological specimens at desired level during microscopic observation. An amodized plate of 10 mm thickness with 50 mm central grove with glass & 175 Χ 155 mm dimension which should fit on most miscroscope stages.  Temp range ambient to 550C with accuracy of + 02.0C  9. Coda Aero Air purification unit  Max Air flow: 530 CFM  Effective coverage: up to 350 sq feet  Application : more than 200 sq feet  10. CL2200 Freeze control from CRYOLOGIC PTY LTD.  Controlled Rate Preprogrammed Freezer for freezing  Sperms, Oocytes, Embros complete with  Preprogrammed Controller  LN2 bath (Capacity 1.5 L)  Carry case  Standard Cryochamber to freeze 23 Straws of 0.5 cc & 46 Straws of 0.25 cc  Specification  Temprature Controller  Controlled Temperature range: 200C & 430C  Temperature warning ( ED or Sound): 1.50 C deviation  Temperature display : Digital. LCD, 0.10C resolution  Timing : Digital, Quartz Crysteal  Internal Programms:  Maximum number of fixed programs: 8 nos  Others: continuous LN2 consumption/less than 1 Liter per hour  Power consumption/less than 60 Watt  Sperm/Embryo freezing   1. TA- 26CRYOCAN, IBP make, 25.7 ltr Capicity with rubber ring & pad 2. B) BA- 11 CCRYOCAN, IBP make 10.7 ltr capacity with canisters (For large capacity) 3. BA- 3 11 CCRYOCAN, IBP make 10.7 ltr capacity with canisters (For Carrying frozen specimen   12. Doctors friendly Software  Reprosoft SOFTWARE is designed to cover important areas in a fertility clinic  It can be used in a LAN environment with multiple users. Degrees of access to individual user  13. Inverted Research Microsoft: with Hoffman Modulation Contrast  Inverted Microsoft basic unit (100-240 V) 12 V- 100W  Lamp house- 2 BL with pre-centered 100 W helogen  Main Body, Side port Coaxial Coarse/ fine focus W /tension adjustment, Light distribution  T-DH 100W Dia illumination Pillar supplied with detachable condenser carrier, diffuser, 45 mm filter slots. Lamphouser ERmote Cable  Helogen Lamp- 12 -100 W LL  Power Cord BE  25 Inclination ube D 25 Inclination angle, Turret selector incorporated B/2.5\*C/0 | 02 |
| OBG28 | LLETZ | Non conductive instruments can be used with any LLETZ/LLEP system  Highly reliable,autoclavable  Built in smoke tubes on all ‘duckbil’ specula.  Electrosurgery unit features 5 treatment modes –purecut ,blend,coagulation,fulgrationand bipolar powerful 120 watts purecut and 80watt coagulation modes reduce electrode draw and assure quicker coagulation  Square LLETZ electrodes 1cm\*0.4cm sterile,disposable,box of 5;shaft :13cm(5”)  Loop LLETZ electrodes 0.5\*0.5cm , sterile,disposable,box of 5;shaft :13cm(5”)  Loop LLETZ electrodes 1\*0.5 cm, sterile,disposable,box of 5;shaft :13cm(5”)  Loop LLETZ electrodes 1\*1 cm, sterile,disposable,box of 5;shaft :13cm(5”)  Loop LLETZ electrodes 1.5\*0.5 cm, sterile,disposable,box of 5;shaft :13cm(5”)  Loop LLETZ electrodes1.5\*1 cm, sterile,disposable,box of 5;shaft :13cm(5”)  Loop LLETZ electrodes1.5 \*1.5cm, sterile,disposable,box of 5;shaft :13cm(5”)  Loop LLETZ electrodes2\*1cm, sterile,disposable,box of 5;shaft :13cm(5”)  Ball LLETZ electrodes,3mm dia, sterile,disposable,box of 5;shaft :13cm(5”)  Ball LLETZ electrodes,5mm dia, sterile,disposable,box of 5;shaft :13cm(5”) | 2 |
| OBG29 | Obstetric labour table | Overall approx extended size 1880 mm length\*9000 mm width\*800mm height  Three section-top backrest adjustable on rachet  -middle section with’ U’ cut  -Leg end section can slide completely under main frame  Gas sparing assisted trendelenberg position  SS head side railing,SS handgrips ,rubber padded SS lithotomy rods and SS bowl | 11 |
| OBG30 | Vessel sealing & ultrasonic dissector system | The ultrasonic dissector should have following features  Shears must be possible to have a multiple plane cutting and coagulating  Cutting & coagulating with ultrasonic energy  Possibility to detatch the Transducer from the patient cable to better maintenance  Tissue gasping with using Parallel Jaw closure  Should be compatible with only 5mm instruments  The system should have stand by mode  The power setting should be adjustable in 0.5 setting  The ultrasonic dissector should have following instrument to handle following open and laparoscopic surgery instruments such as  Shears of 5mm thickness and shaft length 291 mm-1no  Shears of 5mm thickness and shaft length 380mm-1no  Shears of 5mm thickness and shaft length 157mm-1no  Ball probe-1n0.  Hook probe of 5 mm thickness and shaft length 350 mm-1no.  Cable for ultrasonic transducer -1no.  ultrasonic transducer -1no.  Foot pedal for ultrasonic generator-1no. | 8 |
| OBG31 | Cautery Machine  ( Electro Surgical Unit) | - Machine must have independent HF generator for monopolor & Bipolar, So that both can be operated simultaneously  - It must have frequency compensation circuit ti maintain the output  - Should have 400 W of cutting power, 300W of coagulation power & 50 W of Bipolar coagulation power  - Should have digital display for monopolar & Bioplar power setting  - Should have opinion of bleeding the current at least 5 steps  - Should have Silicon rubber patient plate to prevent patient burns  - Should have two paddle expision protected foot switch one for cut & second for coagulation  - Should have automatic start mode for Bipolar coagulation  - Must have seprate audible tones for cut & coagulation  - Unit must be capable to cut off the current delivery in case of disc- connectivity of patient plate with the unit. Should give audio & visual alarm in that case  - Unit should have seprate connector to connect the resectoscope  - cautery machine shall be manufactured under ISO Certification  - Must comply with International Electromechanical Commission  - Equipment must have UL 13485 Certification of medical equipment | 7 |

OPHTHALMOLOGY

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | NAME OF EQUIPMENT | SPECIFICATION | TOTAL |
| OPH1 | Spectral domain OCT | Optical source  Superluminescent diode (SLD), 840 nm  Scan speed  27,000-45,000 A-scans per second  A-scan depth  2.0 mm (in tissue),  1024 points  Axial resolution  5 μm (in tissue)  Transverse resolution  15 μm (in tissue)  Fundus Imaging  Model 4000  Methodology  Line scanning ophthalmoscope  Live fundus image  During alignment and during OCT scan  Optical source  Superluminescent diode (SLD), 750 nm  Field of view  36 degrees W x 30 degrees H  Frame rate  >20 Hz  Transverse resolution  25 μm (in tissue)  Iris Imaging  Methodology  CCD camera  Resolution  1280 x 1024  Live iris image  During alignment  Electrical, Physical and Environmental  Weight  83 lbs (38 kg)  Dimensions of Instrument  26L x 17W x 21H (in) 65L x 44W x 53H (cm)  Dimensions of Table  39L x 22W (in) 99L x 56W (cm)  Fixation  Internal, external  Internal fixation focus adjustment  -20D to +20D (diopters)  Input devices  Keyboard, mouse  Electrical rating (115V)  Single Phase, 100-120V~ systems:50/60Hz, 5A  Fuse rating (115V)  T 5A 250V  Electrical rating (230V)  Single Phase, 220-240V~ systems:50/60 Hz, 2.5A  Fuse rating (230V)  T 5A 250V  Temperature (transport and storage)  –40º to +70º C  Relative humidity (transport and storage)  10% to 100%, including condensation  Atmospheric pressure (transport and storage)  500 hPa to 1060 hPa  Temperature (operation)  +10º to +35º C  Relative humidity (operation)  30% to 75%, excluding condensation  Atmospheric Pressure (operation)  700 hPa to 1060 hPa  Internal Computer  Processor  Intel® Core™ 2 Quad  Memory  4GB  Hard drive / Internal storage  ≥ 750 GB > 80,000 scans  Display  Integrated 15” color flat panel display  CD/DVD  DVD-Multi drive  Software Features  Raster Scans  Enhanced HD Raster |  |
| OPH 2 | High End Vitrectomy Machine | . Equipment console:-  User Interface : TET, 10.4" Tourchscreen, 640 x 480 dpi, VGA colour.  Surgeon record: Each surgery datas recorded internally and can be retrived or take print for statistical purpose  Automatic Cart for Bottle : Programmable and controlled by pedal and console  Function change indication : Audiable tone indication  Dual independent lamps (Xenon and Mercury)  Safty : Error message in display if any malfunction of unit  Programmability: 15 main program and 14 subprogram for each program.  Customized Module : Diathermy module, Phaco and fragmentome module, pheumatic cutter module, Air exchange module, silicon oil infusion & extraction Module and active extrusion module.  Foot Pedal : Double linear or logirthem control foot pedal with additional 4 bumper with fully customized as per the surgeons desire like functions, program changes, macro control, pitch liear movements and adjustable force  High Speed Vitrectomy :  Cutting frequency - 5000 cuts /min, 20, 23 and 25 guage compatible, Pneumatic and Electric Drive for pheumatic and electric vitrectomy.  Vitrectomy Due Mode, Downwards dual linear control of cutting speeds and aspiration for core.  Vitrectomy (Anterior and posterior) :  Cutter Type : Pnematic Guillotine cutter  Cutters : 20G Resuable or disposable 23G, 25G and 27G |  |
|  |  | Pressure : 2.5 Bar  Pulse Time : 20ms + or - 1 ms  Cutting rate : From 60 to 5000 cpm (higher cutting range)  Retaining pressure : 1 Bar  Actuating system : Pressurized air or Gas from Compressor  Control : Fixed, Linear, Curve linear and independent flow and vacuum and cutting control with adjustable duty cycle  Aspiration : Using venture pump & peristaltic pump (dual) Range 10 to 500 mm of Hg.  Infusion : Gas forced infusion system with 3 way connector for the global maintenance of anterior and posterior segment pressure.  Diathermy :  Operating frequency : 2.2 MHz  Nominal Power : 1 SW at 100 ohm  Posterior Vitrectomy Machine Essential Accessories  1 Xenon + 1Mercury Lamp Assembly  Fragmentation Handpiece  Xenon Lamp Replacement  Mercury Lamp Replacement  FragmentationNeedle 15 deg single use  Posterior Procedural Pack includes Integrated Vented AFI  High Speed (30-5000cpm) Anterior VitrectomyCutter Pack  Silicone -Oil 5000CentistokeOil  10 DoseCylinder of SF6  10 DoseCylinder ofC3F8  Universa lGas Kit  Cylinder Tank Stand  StandardGas Regulator  Viscous Fluid Extraction Kits  23G Single Use Endgripping VR Forceps  25G Single Use Endgripping Forceps  Plug Removal Forceps  Stabilizing Plate  23G 23G Reusable BackflushCannula  25G 25G Reusable BackflushCannula  Banana Plug Adapter  25G MVR Blade  20GReusable Soft Tip AspiratingCannula  23GSoft TipCannula  25GSoft TipCannulaFluid Injection Kits |  |
| OPH3 | Viewing system for vitrectomy, with dedicated binocular tube (concontract vitrectomy viewing system ) | * Wide Observation Field * Automatic inversion * Excellent depth of field * View through small pupils >3mm * See around corneal scars * View through lens opacities * Great view under air * No contact with cornea * Mounted to microscope for stability * Eye may be rotated freely * No contamination under lens * No assistant required to hold lens * Adaptibility to takagi and zeiss microscope  One set of disposable BIOM lensesOne disposable flat contact lensOne prefilled syringe of irrigation device for corneaTwo disposable drive belt for BIOM 3c/4c systemOne disposable thumbscrew cover for dovetail | 7 |
| OPH4 | Vitreo retinal surgical instrument set with viewing lens set | Lightweight titanium handle  Rounded grip area   * Micro scissors – straight ,angled and curved * [Micro End Gripping Forceps](http://www.eye-tech.co.uk/product/vmi/forceps/vr1016.asp) * Pick forcep * Foreign body forcep * Subretinal and ILM Instruments [Long Angled Scissors](http://www.eye-tech.co.uk/product/vmi/subretinal/vr1035.asp) * Membrane spatula 2.0mm Angled, 20 G * Membrane spatula knife 5.0mm Angled All Edges Sharp,20 G * Membrane peeler 1.0mm Angled,24 G / 0.6mm * Microrhexis forcep 23 G   VITRECTOMY LENS SET  • MILR - Silicon ring  • MILR1 - Stainless steel ring with two notches  • MILR2 - Stainless steel ring with two struts  • MIL1 - Machemer flat lens  • MIL2 - Tolenteno prism lens 20?  • MIL3 - Tolenteno prism lens 30?  • MIL4 - Machemer magnifying lens  • MIL5 - Paymen wide field lens  • MIL6 - Landers biconcave-90 D lens  • MIL7 - Woldoff prismatic biconcave lens | 12 |
| OPH5 | Operating Microscope with BIOM & accessories | Microscope  A binocular stereoscopic type microscope with built in illumination provided with facility for changing the magnification without disturbing other alignments ie., when the magnification is changed the image remains in focus.  The specification mentioned below are minimum requirements :   1. Binocular optical head with coaxial illumination. 2. i. Eye piece wide field minimum 10 x 12.5 x individually adjustable.   ii. Inclined binocular tube 45 degree.  iii. Should have diopteric adjustment of + 5.00 to - 5.00   1. Interpupillary distance : 55 mm to 75 mm 2. Objective lens : Focal length (f minimum 175 + 25 and above) 3. Working distance : To be stated for each alternative not less than 150 mm. 4. Total magnification 4 to 175.5 x or more (continuous magnification) 5. Assistant binocular microscope (Assistoscope) Assistant microscope to match the focusing of main microscope. 6. Zooming ratio (1:6) 7. Filed of vision : Range 40 mm to 60 mm or more (at the minimum magnification) 8. Focussing (motorized) : Zoom foot pedal control. 9. X-Y couping foot pedal control.   Control for illumination intensity control  Speed of Zoom and X-Y adjustable  Centering switch  Footswitch  Large easy manipulation  Controls for   1. Illumination on / off 2. Illumination intensity 3. Zoom   X-Y  Illumination   1. Intensity : To be stated in lux minimum 80,000 Luxor more. 2. Type : coaxial dual lamp/by optical light guide. (Halogen bulbs, no of bulbs volatage, wattage and secondary powder source to be stated by tenderer) with fan cooling arrangement 3. Field : Range 45 mm to 60 mm or more 4. UV filter : U.V. Filter switchable facility for occluding pupillary light.   Apochromatic optics, anti-reflex multicoating white light.  Beam Splitter  Observerscope for assistant (same view as surgeon’s)  Video attachment HD (high definition) CCD camera for dislay and direct DVD recording facility.  Construction (Mounting and adjustment)  A. Arms : Counter balanced spring type   1. Horizontal length of arms : To be stated not less than 800 mm 2. Range of vertical adjustment : 300 to 550mm or more 3. Rotation of arms : Not less than 300 degree   B. Base : The base should be stable and should not topple when optical units articulated arm is fully extended. Dimension of ba  se in mm to be stated by the bidder.  C. Means of Mobility : To be stated and stability and safety arrangements described in details by the bidder  Packing and Packaging   1. The microscope and other detachable components shall be packed in a permanent box having suitable grooves with the same configuration as the microscope/components so as to hold them intact without any movement or play to avoid and damage during transit.   The base, uright and other accessories shall be packed in separate boxed during transportation with suitable packing/ cushioning in so as to prevent any damage during transit.  Quality Requirement   1. The manufacturer should describe fully operational, quality plan in the bid. in addition, each instrument shall be tested by the manufacturer after completion and prior to packing for all movement, adjustment and accuracy. Copies of such test certificates for each test with reading recorded obtained shall accompany each instrument.   The product should be certified for international quality standards as CE/FDA.  Electric supply at AC 220 to 240 V, 50 Hz.  Spares   1. Twelve sets of bulbs, rubber caps for eyepieces 12   Voltage stabilizer & UPS/ dust cover  Standard Accessories  CE/ Necessary certification | 6 |
| OPH6 | Phacoemulsification unit | Ultrasound Phaco:  A -4- 6-crystal titanium handpiece with  internal infusion line.  B -Frequency of handpiece : 28-60kHz  C - Pulse mode with variable frequency  0.5 to 20 Hz. Facility or adjusting  duration between pulses.  D - Burst mode with variable burst length  from 10-500ms.Facility for adjusting  the pause duration between bursts at  100% foot pedal deflection  (pedal position 3).  E - Facilities for carrying out co- axial microincision cataract surgery or sleeveless bimanual phaco (phaco nit).  F - Multimode occlusion-made.  G - Display counter for effective phaco time 0.1sec intervals.  H- Cold PHACO & Micro phaco capabilities  2) I/A Systems :  A - Non- contaminating fluidics system with aspiration vacuum being measured outside of the aspiration tube without any elements getting into contacts with the aspiration flow.  B - Ventui and Peristaltic pump (diaal) Switchable during Surgery from the Control as well as foot panel.  C - Ventui :0-500mmHg with adjustable rise time1sec-12sec.  D - Peristaltic :0-500mmHg flow rate :1-40ml /min.  E - Reflux Selectable from bottle or with pump selectabke by heel deflection.  F - Memories : At least 50 sugeon memories with 3 phaco and 1/A Programmes each .  G - Machine should have motorized 1V pole which can be programmed with different surgeon memories.  H - Autoclavable 1/A cassette suitable for both venturi and peristaltic pump with minimum 250 mm capacity.  3) RF Capsulotomy :  The machine should have in built RF capsulotomy for carrying out rhexis.  4) Diathermy:  The machine should have in built diathermy with linear control & instant fixed diathermy option available,switchable from foot pedal.  Phaco Accessories : QTY  haco   |  |  | | --- | --- | | handpiece | 1 | | Autoclavable cassettes | 3 | | Phaco tips 30 Deg. | 2 | | I/A Handpiece Coaxial | 1 | | I/A Straight tip | 1 | | I/A Bent tip | 1 | | I/A Bi- manual set | 1 | | Capsulotomy tip | 1 | | Phaco sleeves | 10 | | Test chamber | 2 | | Diathermy Handpiece | 1 | | Diathermy / Bi – polar forceps 1 |  | | Diathermy / Eraser tip | 1 | | Key for Phaco tip | 1 | | Comics tip with sleeves | 1 | | 7 |
| OPH7 | Automated Perimeter | Direct projection system -30  Different programmes strategies for macular neurological and glaucoma evaluation  Motorized auto eye trashing with 100% fixation control  Video eye monitor-infrared sensitive eye camera and video display.  Automatic avg pupil size measurement.  Stimulus size (goldmann III & V)  Stimulus and intensity (0-10000 asb)  USB , serial and parallel ports.  Colour printer  Option for downloading software versions from internet  Bidirectional PC connection options  Integrated LAN adaptor with Ethernet output  Power requirement->100-240 VAC, 50/60 HZ, 40VA. | 2 |
| OPH8 | Fundus Flouroscein Angiography(Digital) | Microprocessor Controlled Digital Cameras with multiple field angle from 20 degree to 60 degree.  Facility for small pupil angiography  (with up to 4mm pupil)  Working distance 45mm or less.  Examiner diopteric compensation (-23 d to +23D ).  Optical Head Tilt +15 degree/ -10 degree.  Spanning +/-30 degree horizontal (right & left).  Base movement in vertical ,forward/backward  & right/left direction to be provided.  Face rest movement > 50mm with internal fixation facility to be provided.  Upgradable to ICG ANGIOGRAPHY and digital recording,storing and reproduction  Equipment shall be CE marked. | 3 |
| OPH9 | A-B scan | * Features   + Color LCD fixes the finest image   + Post-process helps find out more details   + May work with computer.   + Pseudo-color gives more detail.   + Dual image in one picture   + Play back for 56 images.   + TGC for B-Scan.   B-MODE   * + Color: 8 color codes   + Frequency: 10 MHZ   + TGC: -30 - 0 dB   + Resolution: axial ¡Ü0.2mm; lateral ¡Ü0.4mm   + Scanning scope: angle 53¡ã, Depth: 34mm - 60mm   + Gray scale: 256   + Cineloop: 5.6 secs/56 images; single or circle   + Memory: 8 images   A-MODE   * + Frequency: 10 MHZ   + Measuring mode: immersion/contact   + Biometry accuracy: ¡Ü0.06 mm   + Measuring scope(AL): 16 - 40mm   + Measuring method: automatic (for normal, aphakic, special, dense cataract) and manual.   + Formulae: SRK/T, SRK-II, BINKHOST-II, HOLLADAY, HOFFER-Q and HAIGIS   + Memory: up to 50 groups data, permanently * ApprovalCE Mark  FDA * Product NumberODM-2200 * ResolutionB-Mode: axial ¡Ü0.2mm; lateral ¡Ü0.4mm * Scan TypeA/B Scanner * Probe Frequency10 MHZ * IOL FormulasA-Mode: SRK/T, SRK-II, BINKHOST-II, HOLLADAY, HOFFER-Q and HAIGIS * GrayscaleB-Mode: 256 | 3 |
| OPH10 | Specular biomicroscope | International standard non contact specular microscope  Endothelial imaging and  endothelial cell analysis – no. of cells/ cell density/ cell area/ SD, CV, MAX,MIN polymegathism, pleomorphism  Corneal thickness measurement  Wide area of measurement with pacentral imaging  Autoindication of optimum images  Automated cell analysis  Autotracking & auto shooting  Tiltable lCD touch panel  Facility for donor eye attachment  Corneoscleal button holder  Complete latest softwareFacility for data storage and printing  Motorized table   * Voltage stabilizer and UPS to be provided * CE and other necessary certifications * Plus standard accessories and dust cover | 3 |
| OPH 11 | Slit lamp with photography facility | Binocular biomicroscope with a slit lamp system for providing desired type of illumination for various types of examination of the eye  Microscope section  1. Type- slit lamp binocular biomicroscope  2. angle of optical axis: the offset of the left and right optical axis should be within 40 minutes in up and down direction separately and within 1 degree in outward. However a binocular bhiomicroscope of which optical axis of left and right occularts are not parallel is excluded  3. controlled magnification - should be in steps 5 STEPS  4. objectives- paired 1x and 1.6x objective lens focal lens(100-125) to be stated b y the bidder  5. eye pieces- 10x and 16x (range of diopteric adjustment to be stated by bidder (atleast 7 dioptres)  6. interpupillary distance50mm to 75mm.  7. magnification and field of view eye piece10x objective10x magnification field 18mm. 15mm. 11mm  B  slit illumination section   1. Slit image with adjustment 0-8mm stepless 2. Slit image length adjustment 0-10mm continuous 3. Diameter of diaphragm approximately or diameter of illuminate 8mm, 5mm. 3mm, 2mm. 1mm and 0.2mm 4. Angle of slit (rotation) +-90 degree 5. Tilt of slit (deceleraration) – to horizontal 0 degree to 15 min (steps to be stated by the tenderer ) 6. Filters cobalt blue, red free and gray (ND) polarizer other ND filters to be stated 7. Light source- halogen lamps 8. Intensity control of illumination: low, medium and high   C  Base section and control of movement   1. Type 2. Back and forth movement 3. Vertical movement: mechanism and amplitudeof each movement in mm to be stated by the bidder 4. Fine movement 5. Table top dimension   D  Chin rest assembly   1. Type- mechanical (details to be stated by the tenderer) 2. The digital photographic unit shall be of digital camera, generator, computer with high resolution monitor, 80GB harddisk, softwarfe and DVD writer (specify the details of the product and catalogues and technical liuterature 3. Additional features if any, spare bulbs 5 in No. | 6 |
| OPH 12 | Visual Electrophysiology System | * easily perform all the current standard clinical visual function tests, ERG, VEP, PERG, Focal-ERG, EOG, Flash-VEP, Dark Adaptometry tests * -Console, PowerBloc, one stimulator. System includes headbox, software, manual, starter pack of electrodes and all cables * Portable and self contained (all major electronics in one box) * Compact * Integrated bright 10.4” TFT LCD screen with infrared touch screen * Fast Pentium CPU running Windows 98 with 128Mb RAM, large HDD and 250Mb zip drive * Advanced real-time DSP processor based acquisition system * 5 integral computer controlled fully isolated differential amplifiers with digital low, high and band pass filters, DC input, (not AC coupled) * Sophisticated impedance measurement system allowing individual electrode checking * 10BaseT Ethernet connection (on PowerBloc) for simple interfacing to existing networks * USB, Parallel, RS232 (Isolated), 10BaseT network connections (on PowerBloc) * 5 integral computer controlled fully isolated differential amplifiers with digital low, high and band pass filters, DC input, (not AC coupled) and impedance measurement system * Infrared mouse and keyboard included * Predefined test protocols and the ability to create new custom protocols * Industry standard SQL database using an advanced interface for comprehensive data storage and retrieval   - Constant voltage stabilizer compatible to machine | 3 |
| OPH13 | Double Frequency Nd Yag LASER (532nm) | 1.Solid state diode pumped green laser with thermo electric cooling (TEC) with power 0-1000u.  2.Variable spot size from 50um to 1000um (per focal).  3.Exposure time of 10-2500msec in steps with continuous wave facility, auto repeat interval from 100msec to 1 sec. or more (in steps).  4.Micro manipulator or laser beam should be available.  5.Laser should be integrated with dedicated slit lamp for laser delivery.  6.Cost of slit lamp to be mentioned & included slit lamp for laser delivery.  7.Slit lamp to have 5 step magnification, motorized table for height adjustment.  8.Protective glasses (5 sets) for observers to be provided  9.Laser should have additional endolaser.Indirect Ophthalmoscope (ILO) laser delivery systems with protective filter (5 in no.) Endolaser probes (5 in no.) & laser indirect ophthalmoscope (1 in no.),Laser lenses : PRP lenses (2 in no.) 20-D lenses for ILO (2 in no)  10.Additional features: 3 Mirror Goldmann Contact lens,Macular Grid Lens.  11Pattern scan LASER, VARIABLE MODE | 3 |
| OPH14 | Synaptophore | * Movement of optical tubes :   Horizontal : Adduction +50o  Adduction -40o  Vertical : Hyper 30o  Hypo 30o  Torisional : Incyclo 20o  Excyclo 20o   * Slide Illumination : Rheostat controlled 12V lamp for each slide. After image illumination by 12V lamp (for Better Illumination). * Auto Flashing : Auto flashing of slide illumination either simultaneous or alternate in rapid & variable modes. * With hadinger brushes * Mode & mode selection: Normal, flashing right, flashing left, flashing R+L & auto flashing can be selected by a single selector knob. * Motorized instrument table * After images using high intensity halogen light sources and condensing systems. * Accessories 1. Set of slides containing 9 pairs   2. power cord  3. Spare bulbs (4 in number)  viii.  Quality Requirement   1. The manufacturer should describe fully operational, quality plan in the bid. in addition, each instrument shall be tested by the manufacturer after completion and prior to packing for all movement, adjustment and accuracy. Copies of such test certificates for each test with reading recorded obtained shall accompany each instrument. 2. The product should be certified for international quality standards as CE/FDA.   IV  Electric supply  Electric supply at AC 220 to 240 V, 50 Hz.  V  Spares  i. Twelve sets of bulbs, rubber caps for eyepieces 12 | 6 |
| OPH 15 | Ophthalmic diode laser | * Complete 808nm/ 810nm continuous wave Diode laser system for functions of retinal photocoagulation including endophotocoagulation, transpullary thermotherapy (TTT) and cyclophotocoagulation * Modular console and slit lamp to integrate all above noted functions * Power output of at least 2000mW for endo delivery * Exposure time range of 0.02- 5.0 sec for photocoagulation and at least upto 10 minutes for other applications. Auto repeat at variable interval range of at least 0.1- 1.0 sec * Variable spot size deliveries for different applications ranging from 60um to at least 1000um * Red laser target beam * One safety filter for Zeiss and takagi microscope & and one pair of safety goggles. * One set of fibreoptic endoprobes with at least one 30degree bent and rest straight. * One reusable probe each for trans-scleral cyclophotocoagulation & retinal photocoagulation. * All necessary fibreoptic cables and attachments * 10 spare halogen bulbs for slit lamp. * Power supply: 90-264Vac, 50/ 60Hz, 200VA * UPS or similar power protective device for the system | 3 |
| OPH16 | Heidelberg retinal tomography II (HRT) | Instrument type:  Confocal scanning laser ophthalmoscope  Field of View:  15° x 15° (transverse)  Scan Depth:  1.0 to 4.0 mm (automatic)  Optical Resolution:  10 µm /pixel (transverse)  Repeatability:  20 µm  Digital Image Size:  2-D image: 384 x 384 pixels 3-D image: up to 384 x 384 x 64 pixels  Image file size:  30 MB uncompressed, 5 MB compressed (typical)  Scan Time:  2-D image: 24 milliseconds 3-D image: 1 second typical (2mm scan depth)  Focus Range:  -12 to +12 diopters spherical -6 to +6 diopters cylindrical  Minimum Pupil Diameter:  ≥ 1 mm  Light Source:  670 nm diode laser  Image alignment/ artifact rejection:  TruTrack™ proprietary software  Display modes:  Single frame, Multi-frame (movie), 2-D mapping, 3-D mapping  Portability:  laptop version and carrying case  Operating systems:  Heidelberg Eye Explorer and Windows XP  Networking:  Heidelberg Eye Explorer | 3 |
| OPH 17 | GDx VCC (nerve fiber layer analyser) | Scanning Laser Polarimetry (SLP) imaging technology  • Portability with unique optics lock-down feature  • Non-mydriatic operation  • New Windows® XP, SP3  • New Prints to virtually any XP supported printer  • New Exports files in PDF, TIFF or JPEG formats  • New DICOM Gateway  • New Automatic mapping to an automatically generated IP address  • New Ability to browse the network; network neighborhood available  • New Intuitive Touch Screen or mouse-driven operation requires virtually no experience  • New AutoFocus optimizes imaging position  • Manual refraction entry  • New Live Fundus View ensures proper patient fixation prior to scan acquisition  • New Simple-Touch Automatic Pupil Alignment and Touch Screen acquisiton require virtually no operator experience  • New Restart Alignment quickly returns the alignment back to the default setting  • New Low Vision Target accommodates patients with compromised central vision  • New Iris Image Check to rule out alignment issues after the scan  • New ECC (• Enhanced Corneal Compensation ) available standard  • VCC available as an alternate analysis mode  • New GPA available standard with two options: Fast mode or extended mode  • New RNFL Normative database – ECC  • RNFL Normative database – VCC  • New Nerve Fiber Indicator (NFI) – ECC  • Nerve Fiber Indicator (NFI) – VCC   * Field of view 40\*20 degree * Processor - ≥ 2.2 GHz processor * 8.4” screen with 800 x 600 resolution * Minimum pupil diameter 2mm * Ametropia Correction -13 to +8 diopters * DVD-RW media * 4 usb ports * Complies with the following standards:IEC 60601-1, UL60601-1CSA C22.2 No. 601.1-M90 * CVT compatible to machine | 3 |
| OPH 18 | Corneal Topography analyser | Keratoscope cone 24 rings equally spaced on a 43D sphere  analyzed points Over 100,000  measured points Over 10,000  corneal coverage From 0.3 (minimal diameter on a sphere of 43D) up to 10.5mm on a normal eye  Diopter power range From 1D to over 120D  resolution ± 0.01D, 1 micron  accuracy/precision axial radius ± 0.03 mm altimetric data ± 2μm at 4 mm  capture system Auto-capture  output port USB  Environmental Conditions  Working environment  Temperature 10-40°C  Relative humidity 30-75% (no dewing)  Atmospheric pressure 700-1060 hPa  storage  Temperature 10-40°C  Relative humidity 30-75% (no dewing)  Atmospheric pressure 700-1060 hPa  Electric Specifications:  power supply AC 100-240V 47-63 Hz  power consumption <100 VA | 4 |
| OPH 19 | Pachymeter | * Measurement range: 200 – 900 microns * Number of measurements: 1 to 10 * Accuracy: ± 5 microns * Adjustable velocity * 4 measurement methods: central measurement or cartographic map (automatic, continuous and scanning mode) * 8 predefined cartographic maps: 8L, 4L, 9C8L, 9C4L, 5C8L, 5C4L, 9C and 5C * 6 tables correlating intraocular eye pressure and corneal thickness: Ehlers, Doughty, Dresdner and 3 user-defined tables * Bias correction: 80% to 120% | 4 |
| OPH 20 | IOL master | Measuring Range   |  |  |  | | --- | --- | --- | | Axial length  Area  Resolution of display |  | 14 … 40 mm 0.01 mm | | Keratometer Area Resolution of display |  | 5 … 10 mm  0.01 mm | | Anterior chamber depth Area Resolution of display |  | 1.5 … 6.5 mm 0.01 mm | | White To White  Area  Resolution of display |  | 8 … 16 mm  0.1 mm |   Basic Device   |  |  |  | | --- | --- | --- | | Dimensions (footprint) Height Weight |  | 390 mm x 300 mm max. 610 mm (headrest) approx. 18 kg | | Rated voltage; frequency Cataract Surgery Arizonabasic device |  | 100 … 240 V AC (±10%); 50 / 60 Hz | | Power consumption Cataract Surgery Arizonabasic unit |  | 90 VA | | Earth conductor  Protection class Protection type Device type |  | Device should be connected only to sockets with an intact earth conductor I IP 20 B (DIN EN 6061-1) |   Power Isolation Transformer   |  |  |  | | --- | --- | --- | | Rated voltage, frequency |  | 100 … 127V AC (±10%); 60 HZ or 220 … 240 V AC (±10%); 50 Hz | | Power consumption |  | max. 115 VA (Total power consumption of connected external devices) | | Fuses |  | 2 x T3.15 A H 250 V 5x20 IEC 60127 for 100 … 127 V AC 2 x T1.6 A H 250 V 5x20 IEC 60127 for 220 … 240 V AC |   Ambient Conditions for Intended Use   |  |  |  |  | | --- | --- | --- | --- | |  | Temperature |  | 10 … 30 °C | |  | Relative humidity |  | 30 … 75% non-condensing | |  | Atmospheric pressure |  | 800 … 1060 hPa |   Storage Environment   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Temperature | |  | | -10 … +55 °C | | | Relative humidity | |  | | 10 … 95% (no condensation) | | |  | Atmospheric pressure | |  | | 700 … 1060 hPa | |   Ambient Conditions for Storage and Transport  (in original packaging)   |  |  |  |  | | --- | --- | --- | --- | |  | Temperature |  | -10 … +70 °C | |  | Relative humidity |  | 10 … 95% (no condensation) | |  | Atmospheric pressure |  | 500 … 1060 hPa | | 3 |
| OPH 21 | Chair unit with refraction set with slit lamp with cordless indirect ophthalmoscope | SPECIFICATIONS   |  |  | | --- | --- | | Base dimensions | Floor space required | | Height | : 7.6” | | Length | : after reclining 9.6” | | Width | : 4” | | Input voltage and power | : 110/230V | | Output | : 3V, 6V, 12V | | Net Weight | : 194 Kgs. | | Gross Weight | : 225 Kg. |   Essential ADD-ONS:   * Slit Lamp * Binocular indirect ophthalmoscope * Trial lens set * Chart projector ( with remote )   Accessory ADD ons :   * Keratometer or autorefractometer * Direct ophthalmoscope and streak retinoscope * Sight tester (Phoropter) | 6 |
| OPH 22 | Hand held slit lamp | * Slit size adjustable from 0.2mm x 10mm to 4mm x 14mm. * 6x magnification. * Blue interference filter (FITC), can be selected for corneal examination. * Multi-coated optics for maximum light transmission. * 2.5V or 3.5V XHL Xenon Halogen Technology for bright, white light comparable with the brightness of a classic slit lamp. | 1 |
| OPH 23 | Non contact Tonometer | Measurement Range 160［mmHg］/0.18.0［kPa］  Measurement Measurement Step 1［mmHg］/ 0.1［kPa］  Working distance 11［mm］  Operation Range  Back and Forth 22 mm  Alignment by Joystick  Right and Left 43 mm  Up and Down 17 mm  Monitor/Printer  Monitor 5.6 inch LCD Color Display  Printer Thermal Type Printer with Auto Cutter  Dimension and Weight  Dimension 240 mm(W), 422 mm(D), 438 mm(H)  Weight 15kg  Data Output Function RS-232 Interface  Voltage 100 240V  Power Supply Hertz 50 / 60 Hz  Power Consumption 60 VA  Power Saving Function 5 , 10 , 20 , 90 min. (switchable)  Standard Accessories Dust cover, Fuses, Printer paper, Chinrest paper Chin Rest Paper Pins, Power Cable | 3 |
| OPH 24 | Video Indirect Ophthalmoscope | Features   * Designed with the faciity to attach the laser system * Strainefree binocular vision * Pre centred high resolution compact CCD colour camera * High intensity illumination with 80mm diameter spot size. * Easy bulb replacement * Provision to adjust the illumination centre manually * Completly sealsd optics for total protection against dirt and dust * Manual fine focus to get sharp video image   Specification :  Binocular indirect Ophthalmoscope  1. Interpupilary distance : 53mm - 76mm 2. Light source : Halogen lamp - 6V/10W 3. Illumination area : f 80mm  Camera : 1. Video focusing range : 140mm to 2m 2. Image size : 80mm 3. Resolution : 470 TV lines 4. TV system : PAL 5. Power supply : DC 12V/65mA   * High resolution A-cam camera.CCD 470,000 pixel,460 lines. * Image sensor. ½” CCD, color. * Fully integrated camera system. No external brackets or prisms. * 100% dust proof system. No maintenance required. * Water-proof camera head. Can be placed in disinfectant solution * Optics specially-developed. Maximum brightness. * Focus adjustable for near working distance. From 250 to 800mm. * Automatic light boost. Boost function for examinations with low lighting. * Compact. Lightweight design (65g, camera head without cable, complete 250 g). | 6 |
| OPH 25 | Motorized OT table with chair | Operation table   1. Exclusively made for the ophtghalmoc surgery 2. Stable and versatile and ergonomic design for both surgeon and patient comfort. height approx.. 890mm to 610mm for standing or sitting working position 3. Foot switch operated. With smooth ups and down movement 4. Attachement for saline stand (no. 2) 5. Instrument tray with stand 6. Adjustable cushniored head rest 7. Antistatic poly-urethane cushion 8. Adjustable wrist support 9. Trendelenberg (head low position) and reverse trendelenberg facility 10. Choice of head sections for easy access to the patient 11. Maximum leg room and space for equipment pedals 12. The adjustable wrist support to surgeon for better comfort and stability during surgery 13. Trendelenberg (head low position) and reverse trendelenberg facility ensures safety during emergencies. 14. Additional power sockets   Surgeon’s chair  Perfect ergonomics for precision-driven microsurgery  Comfortable sitting angles,fit and flexibility  Noise-free.foot switch controlled height adjustment.  Strong back support with effortless spring action and reclination back  Backrest with easy to use height adjustment system  Flexiuble, yet sturdy arm support  Correlated rear wheel lock  Comfortable seat with polyurethane cushion | 3 |
| OPH 26 | Boyle’s apparatus | Boyle’s Apparatus should have rigid steel structure with four antistatic castors wheels having front with  brakes.  2. It should have Appro. (10”) long rotating bobbin flow meters, (rotameters) with colour coded control  knobs, calibrated in multiple scales for accurate reading.  3. It should have Oxygen (1st tube)-10 cc/mm to 3.5 liter/min  4. It should have Oxygen (2nd tube)- 3.5 liter/min to 10 liter/min  5. It should have Nitrous oxide (1st tube)- 200 cc/ min to 5 liter/min  6. It should have Nitrous oxide (2nd tube)- 5 liter / min to 12 liter/min  7. It should have Air-100 cc/min to 12 liter/min  8. It should have It should be Gas specific, gas blocks pin indexed yokes, two each for oxygen & nitrous  oxide & one for air suitable for pin- indexed cylinder. The equipment shall also have attachment for  connection of compressed air.  9. It should be Fitted with pressure gauges 100 mm diameter mounted on O2 and N2O cylinder (2 each)  for clear visibility.  10. It should have Vaporizer for ether, penlon type with graduated jar with mounted selectatec. There  should be Temperature compensated vaporizer for halothane/isoflourine  11. It should be Fitted with regulators and non return cum pressure release valves for gases.  12. It should have Two Numbers oxygen pneumatic power outlets operating at 50 psi to operate ventilator.  13. It should have Extended rear platform for mounting two nos additional 10 litre water capacity cylinders.  14. It should have Patient circuit to include elephantine tubing reservoirs bag, connections for changeover  from open to closed circuit and vice versa.  15. It should have Top tray for monitoring equipment  16. It should have Drawer for keeping instruments.  17. In other respects the equipment shall comply with IS-11378-1985.  18. It should have adjustable pressure limiting valve, breathing circuit pressure measuring device.27  19. It should have a bag/ventilator selecting valve integrated onto the absorber.  20. It should be suitable to use low flow techniques - Facility to attach oxygen sensor.  21. It should have CO2 absorbent Dual chamber canister  22. It should have Automatic cutoff of nitrous oxide in case of oxygen supply {nitro lock system}falls.  23. It should have Pneumatic device with audible alarm mechanical (not electrical) when oxygen supply  falls to 10-15 psi.  24. It should have Hypoxic safety device to ensure that the patient is never subjected to pure N2O in flow  out doses (shall ensure protection against singular flow of N2O) until a minimum flow of 1 liter-1.5 liter  oxygen released.  25. Unit shall incorporate oxygen analyzer (oxygen concentration level indicator).  26. The Regulator and Yoke should force with S.S fittings.  27. The machine should have 3 inlets for O2 and N2O  28. It should have 2 oxygen outlets  29. There should at least one operating pressure gauge for O2 and N2O separately.  30. The operating pressure should be 4.22 kgf/sq.cm +/-0.5%  31. There shall be provision of adequate supply of oxygen to the patient even if the flow meter knobs are fully turned off.  32. Unit shall conform to relevant safety standards and general safety standards as per IS-8607 | 3 |
| OPH 27 | Pulse oximeter | 1.Oximeter must have the provision for all 3 types of probes connection i.e. finger, toe or ear for both adult as  well as pediatric and neonates.  2.It must have provision to use both disposable and reusable probes.  3.The display must indicate the oxygen saturation, heart rate, alarm limits for oxygen saturation and pulse  rate, bar graph indicating the pulse amplitude, the plethysmograms and various system messages and error  messages.  4.Alarms should be present to indicate the violation of the set pulse limits or set oxygen saturation limits.  5.Unit must also indicate the disconnection of the probe or the poor contact of the probe and the patient, low  perfusion, and low battery.  6.It must be compatible with the other equipments like patient monitors, printers etc. for interfacing with them.  7.Unit must be light weight and portable, with a battery back-up of minimum 6 hours.  8.The system should supplied with following  i. System as specified- 01  ii. Reusable SPO2: Adult SPO2 sensor with cable- two nos. per monitor, Paediatric and  Neonate SPO2 sensors - one no. per monitor. | 3 |
| OPH 28 | ETO sterilizer | 1. The ETO sterilizer should be of 8 Cubic Feet Capacity.  2. The system should work with 100% ETO .  3. ETO Gas should be provided in Cartridges clearly marked “100% ETO” and should be approved by  ‘EPA’, ‘FDA’ and OSHA for safety and quality.  4. Shall be Microprocessor controlled with Digital Printer.  5. Microcomputer shall monitor & control system operations & functions.  6. Sterilizer Should Have A Built In Aerator.  7. Machine should operate at a negative Pressure (of At least Upto 200mm Of Hg) during Operation.  8. Machine Should Operate at Dual Temperature at 37oC and 55oC.  9. Should Operate In 3 Phase: Pre-Conditioning, Exposure, and Aeration.  10. Total Sterilization Cycle Time Not To Exceed 5.75 Hrs for Warm Cycle And 7.75 Hrs for A Cool Cycle.  11. Should Be Provided With An alphanumeric display and Graphical Printer.  12. The system should have a soft touch buttons for operations and programming, flushed to the surface of  the system and not rotating knobs.  13. Video Screen Display to Check Cycle Status.  14. Continuous RH Display on Screen for Humidity level inside the chamber.  15. Built In Local Exhaust For Removal Of Residual ETO.  16. System should have a self-diagnosis for errors.  17. Compressor should be included in case there is no provision for Compressed Air Line for the equipment.  18. Standard international safety measure such as locking of door (cannot be opened during operation either  by accident or intend by un-authorized personnel) for occupational and Fire hazards.  19. An independent body should certify system for compliance with OSHA Regulation for Safety.  20. Installation to include complete Copper Ducting from the CSSD to the Hospital Building Terrance and to  be left 10 Feet beyond in Atmosphere.  21. The tender has to guarantee supply of GAS at least for a period of 10years. Certificate from at least 20  existing users required for satisfactory usage and supply of gas.  22. Detailed cost of consumables, such as gas, indicators, sterilization bags, or any other such items  required need to specify clearly. 35 | 3 |
| OPH 29 | Surgeon’s chair (motorized) | 1. It should have facility for Foot regulated height adjustment  2. It should have multi position arm support  3. Electric height level adjustment  4. The range of height adjustment should be apporx.150mm  5. It can be Easily movable with personal handle  6. It should have Back wheels lock.  7. It should have Hand height controls  8. It should be Operated with motor  9. It should have Position foot support  10. It should have Ergonomic seat foam  11. It should have motor driven Fixed or rotating seat  12. Dimension of seat should be minimum 550 mm approx. to maximum 700 mm approx.  13. It should have castor with lock  14. Power supply AC 110V/220V (50/60 Hz)  15. Lifting Capacity: 200Kgs.  16. Stroke Value should be 150 mm approx.  17. It should have Hand support, back rest & wheels  18. It should ergonomically Adjustable | 4 |
| OPH 30 | Autorefractometer with keratometer | * Reliable reputed international standard * Tabletop autorefractometer with objective and subjective measurement for spherical and cylindrical lens. * Wide spherical in increments of - 0.12D/0.25D. * Spherical range -25 to +22D * Cylindrical range of + 10D (approx.) in increments of 0.12/0.25D with axis range of 1\*to 180\* in 1\*/5\* steps * Corneal curvature mode * Corneal curvature radius - 5 – 10mm (.01mm) * Corneal refraction – 67.5 to 33 D (o.12D/ 0.25D) * Corneal astigmatism - + 10D (o.12D/ 0.25D) 0- 180◦ in 1◦ or 5◦ steps * Measuring area – 3mm to 7.7mm radius * Colour screen. * Auto and manual (selectable modes) * Examination should be possible with min. pupil diameter of 2 mm. * Interpupillary distance measurement facility with viewing monitor. * Built in thermal printer facility. * Motorized base. * Over refraction indicator and autofoucs facility. * Power supply of system of 220/240 V 50-60 hz. * Auto caliberation eye model   Quality Requirement   1. The manufacturer should describe fully operational, quality plan in the bid. in addition, each instrument shall be tested by the manufacturer after completion and prior to packing for all movement, adjustment and accuracy. Copies of such test certificates for each test with reading recorded obtained shall accompany each instrument. 2. The product should be certified for international quality standards as CE/FDA. | 6 |
| OPH 31 | Flash autoclave | * Table top front loading flash autoclave * Fast autoclaving with a sterilization time not more than 5-7 minutes of the time taken for heating and build up of correct measurement and pressure. * Exterior indicator of cycle & dry vacuum function. * Digital timer for wet and dry cycle * Technical data:   a) Made stainless steel AISI - interiors.  b) Fully automatic microprocessor control.  c) Sterilization chamber, Volume 24 ltr. low water level protection.  d) Door close indication.  e) Number of cycles 5x1 Rapid.  f) Adjectival sterilization pressure/temperature time.  g) Connected load 220+/-20v, 50Hz, 16-20 KW (Max absorbed power).   * Accessories like trays (10 in nos.) lifting handle for trays (two in nos.), tray containers (two in nos.) included. * Autodrain of water to the reservoir tank   The unit should be ISI/CE approved  CE and other necessary certification  Standard accessories | 5 |
| OPH 32 | Ultrasonic biomicroscopy (UBM) | FEATURES   1. High resolution sulcus to sulcus measuring 2. Focus on different areas and structures within the anterior segment through 4 different pre-configured setrtings 3. Image enhancing focus software with necessary processing tools 4. Advanced intraocular measurement capabilities 5. Recording capability through video clips should allows playback,adjustment of gain, TGC and contrast live zoom scan and isolation of a single frame 6. A light weight hand-held probe and three customs made immersion cups   TECHNICAL   1. Hand piece with 35Mhz?50Mhz transducers 2. CPU with multifrequency cable 3. USB video printer and photo printer 4. PC-based capable of AVI, jpeg and recent file formats for export 5. 18.5mm x 14mm or equiovalent deep scanning field for capturing entire anterior segment in one scan 6. 17” TFT monitor 7. Goose neck gantry arm with probe holder 8. The unit should be ISI/CE/ standard international certification/approved 9. Dust cover 10. Standard accessories 11. UPS/CVT | 3 |

ORTHOPAEDICS DEPARTMENT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S.No. | Name Of Equipment | Specification | | Total |
| ORT1 | General Orthopaedic Instruments (A.O. Type) | 1 set include : | | 4 |
|  |  | Chiesel Curved/ Straight 5mm – 4 | |  |
|  |  | Chiesel Curved/ Straight 10mm – 4 | |  |
|  |  | Chiesel Curved/ Straight 15mm – 4 | |  |
|  |  | Bone Gouge Curved/ Straight 5mm – 4 | |  |
|  |  | Bone Gouge Curved/ Straight 10mm – 4 | |  |
|  |  | Bone Gouge Curved/ Straight 15mm – 4 | |  |
|  |  | Hohmann Retractor Small – 4 | |  |
|  |  | Hohmann Retractor Medium – 4 | |  |
|  |  | Hohmann Retractor Large – 4 | |  |
|  |  | Hohmann Retractor Cobra - 4 | |  |
|  |  | Lanes Bone Levers Small – 4 | |  |
|  |  | Lanes Bone Levers Serrated – 4 | |  |
|  |  | Langenbeck Retractor Small – 4 | |  |
|  |  | Langenbeck Retractor Medium – 4 | |  |
|  |  | Langenbeck Retractor Large – 4 | |  |
|  |  | Langenbeck Retractor Fine - 4 | |  |
|  |  | Mallet 0.5 (Hammer) – 4 | |  |
|  |  | Mallet 1.0(Hammer) – 4 | |  |
|  |  | Periosteal Elevators Straight /Curved - 4 | |  |
|  |  | Bristows – 4 | |  |
|  |  | Farebuffs – 4 | |  |
|  |  | A. O. Pointed Reduction Forceps Small – 4 | |  |
|  |  | A. O. Pointed Reduction Forceps Medium – 4 | |  |
|  |  | A. O. Pointed Reduction Forceps Large – 4 | |  |
|  |  | A. O.Reduction Forceps Small – 4 | |  |
|  |  | A. O.Reduction Forceps Medium – 4 | |  |
|  |  | A. O.Reduction Forceps Large - 4 | |  |
|  |  | Self Centering Forceps Extra Small – 4} | |  |
|  |  | Self Centering Forceps Small – 4} | |  |
|  |  | Self Centering Forceps Medium – 4} | |  |
|  |  | Self Centering Forceps Large – 4} | |  |
|  |  | Kocher's Bone Hook – 4 | |  |
|  |  | Bone Nibblers Small (Straight /Curved) | |  |
|  |  | - Double Lever - 4 | |  |
|  |  | Bone Nibblers Medium (Straight /Curved) | |  |
|  |  | - Double Lever - 4 | |  |
|  |  | Bone Nibblers Large (Straight /Curved) | |  |
|  |  | - Double Lever – 4 | |  |
|  |  | Bone Cutter Small - Double Lever - 1 | |  |
|  |  | Bone Cutter Medium - Double Lever - 1 | |  |
|  |  | Bone Cutter Large - Double Lever - 1 | |  |
|  |  | Bone Impactor 0.5cm – 1 | |  |
|  |  | Bone Impactor 1.0cm – 1 | |  |
|  |  | Patella Forceps - 1 | |  |
|  |  | Skin Grafting Handle Humby – 2 | |  |
|  |  | Bandage Cutting Scissor – 6} | |  |
|  |  | Plaster Bandage Cutting Scissior – 6} | |  |
|  |  | Plaster Spreader Hennings – 6 | |  |
|  |  | Ord. Plaster Cutting Saw Engel Big – 6 | |  |
|  |  | Esmarch Bandage 4" -10 | |  |
|  |  | Esmarch Bandage 6" – 10 | |  |
|  |  | Lowman's Clamp: | |  |
|  |  | Small – 2 | |  |
|  |  | Medium – 2 | |  |
|  |  | Large – 2 | |  |
|  |  | Bone Curet's Double Sided: | |  |
|  |  | 2mm – 2 | |  |
|  |  | 4mm – 2 | |  |
|  |  | 8mm – 2 | |  |
|  |  | 1.2cm – 2 | |  |
|  |  | Ring Curette – 2 | |  |
|  |  | T Handle With Jacob Chuck – 10 | |  |
|  |  | Butterfly T Handle – 10 | |  |
| ORT 2 | Fine General instrumentation set for Hand Surgeons | 1 set includes : | | 4 |
|  |  | 4 small towel clips | |  |
|  |  | 6 Mosquito forcep | |  |
|  |  | 4 small allies forcep | |  |
|  |  | 2 small kocher forceps | |  |
|  |  | 4 small straight artries | |  |
|  |  | 2 skin hooks | |  |
|  |  | 2 catspaw rectors | |  |
|  |  | 2 self retaining small mastroid rector | |  |
|  |  | 2 diamond jaw small needle holders | |  |
|  |  | 2 small fine cutting siccisor curved | |  |
|  |  | 2 small fine cutting siccisor straight | |  |
|  |  | 2 adsons tooth forceps | |  |
|  |  | 2 adsons plane forceps | |  |
|  |  | 2 bulldog small vascular clamp | |  |
| ORT 3 | Instrumentation Basic D.C.Plating - 4.5mm And 3.5 Mm) | 1 set includes : | | 4 |
|  |  | Drill Bits 3.2mm Leng.145mm – 3 | |  |
|  |  | Drill Bits 4.5mm Leng.145mm – 3 | |  |
|  |  | DcpDirll Guide 4.5 Neut Load – 1 | |  |
|  |  | Uni.Drill Guide 4.5 Mini D.C.P – 1 | |  |
|  |  | Double Drill Sleeves 6.5/3.2mm – 1 | |  |
|  |  | Double Drill Sleeves 4.5/3.2mm – 1 | |  |
|  |  | Insert-Drill Sleeves 4.5/3.2mm – 1 | |  |
|  |  | Drill Taps For 4.5mm Screws – 1 | |  |
|  |  | Drill Taps For 6.5mm Screws – 1 | |  |
|  |  | Depth Guage Xl For 4.5mm – 1 | |  |
|  |  | T-Handle With Quick Coupling – 1 | |  |
|  |  | Sharp Hook – 1 | |  |
|  |  | Large Hex Scr.Dr.WithH.Sleeve – 1 | |  |
|  |  | Large Hex Screw Driver Shaft – 1 | |  |
|  |  | Templates 120mm – 2 | |  |
|  |  | Templates 155mm – 2 | |  |
|  |  | Templates 210mm – 2 | |  |
|  |  | Aluminium.Storage&Ster.Case – 1 | |  |
|  |  | Large Countersink 4.5mm – 1 | |  |
| ORT5 | DHS/DCS Instrumentation Set - Xl | 1 set includes : | | 2 |
|  |  | Centering Sleeve For Tap DHS / DCS – 1 | |  |
|  |  | Center Sleeve For Wrench DHS / DCS – 1 | |  |
|  |  | Direct Measuring Device DHS / DCS – 1 | |  |
|  |  | DHS Angle Guide – 1 | |  |
|  |  | Guide Shaft For DHS / DCS – 1 | |  |
|  |  | T Handle With Coupling For DHS – 1 | |  |
|  |  | DHS Triple Reamer With Drill – 1 | |  |
|  |  | DCS Triple Reamer With Drill – 1 | |  |
|  |  | Tap For DHS/DCS – 1 | |  |
|  |  | Wrench (Calibrated) DHS/DCS – 10 | |  |
|  |  | Guide Pin For DHS/DCS – 1 | |  |
|  |  | Box For DHS/DCS Instrument.Set – 1 | |  |
|  |  | Impactor For DHS/DCS – 1 | |  |
|  |  | Insertion M4 Threading – 1 | |  |
|  |  | Coupl. Scr- DHS/DCS Scr. Removal – 1 | |  |
| ORT 6 | Inst.Set For A.M & Thompson and bipolar Prosthesis | 1 set includes : | | 2 |
|  |  | Austin Moore Extractor – 1 | |  |
|  |  | Head Extractor - Judet – 1 (cork screw tvpe) | |  |
|  |  | Am Head Gauge – 1 | |  |
|  |  | AluminiumImpact.or teflon Facing – 1 | |  |
|  |  | Lane's Bone Lever-Small Bone – 2 | |  |
|  |  | Lane's Bone Lever Serrated – 2 | |  |
|  |  | Lane's Bone Lever -Large Bone – 2 | |  |
|  |  | Rasp - Small / Big – 2 | |  |
|  |  | Langenbeck Retractor - Small – 2 | |  |
|  |  | Langenbeck Retractor - Medium – 2 | |  |
|  |  | Langenbeck Retractor - Large – 2 | |  |
|  |  | Impactor – 1 | |  |
|  |  | Murphy Skid – 1 | |  |
|  |  | Homans long  a) Straight - 2  b) Curved - 2 | |  |
| ORT 7 | Wire Instrument Set | 1 set include : | | 4 |
|  |  | Tripple Drill Guide 2.0,3 Hole – 1 | |  |
|  |  | Long Forcep For Twisting Wire – 1 | |  |
|  |  | Wire Passer 45mm Dia – 1 | |  |
|  |  | Wire Passer 70mm Dia – 1 | |  |
|  |  | Wire Bending Plier – 2 | |  |
|  |  | Wire Cutter Small – 2 | |  |
|  |  | Wire Cutter Large – 1 | |  |
|  |  | Wire Tighter Ao Type Hdle&2peg – 1 | |  |
|  |  | Cerclage Wire Tightener – 1 | |  |
|  |  | Holding Forcep-Cerclage Wire – 2 | |  |
|  |  | T Handle For K-Wires – 2 | |  |
|  |  | T Handle For Stenmen Pin With Jacob's Chuck – 2 | |  |
| ORT 8 | Microvascular Instrumentation Set | 1 set includes : | | 1 |
|  |  | Jewlers Forceps – 4 | |  |
|  |  | Jewlers Scissors - 4 | |  |
|  |  | Microvascular Clamp – 4 | |  |
|  |  | Arterial - 4 | |  |
|  |  | Venus – 4 | |  |
|  |  | Anatumotic | |  |
| ORT 9 | ACL Instrument Set | 1 set includes : | | 1 |
|  |  | Ligament Sizing Scale – 1 | |  |
|  |  | Graft Sizer – 1 | |  |
|  |  | Femoral Retractor Sm – 1 | |  |
|  |  | Femoral Retractor Lg – 1 | |  |
|  |  | Tibial Guide/Ratchet – 1 | |  |
|  |  | 8mm Acorn Reamer – 1 | |  |
|  |  | 9mm Acorn Reamer – 1 | |  |
|  |  | Tunnel Plug 8mm – 1 | |  |
|  |  | Tunnel Plug 9mm – 1 | |  |
|  |  | Acl Modular Handle – 1 | |  |
|  |  | Femoral Aimer 5mm Offset – 1 | |  |
|  |  | Closed Tendon Stripper – 1 | |  |
|  |  | 2.8mm X 30mm Cannulated Hex Driver – 1 | |  |
|  |  | Acl Tie Tensioner – 1 | |  |
|  |  | IntrafixTibial Sheath Inserter-Fixed Handle – 1 | |  |
|  |  | IntrafixTibial Sheath Trial - Fixed Handle – 1 | |  |
|  |  | Graft Preparation Board (Local Make) – 1 | |  |
|  |  | * Tendon stripper, diameter 7 mm working length 30 cm * Tendon hook * Tendon thickness tester, for determination of tendon * Thickness 6.0-7.0-8.0-9.0-10.0mm * Larding wire, diameter 2.4 mm, length 32 cm, pyramidal tip, package of 10 * Tibal target aimer anterior cruciate ligament angulations of the tunnel can be changed between 40˚ to 60˚ in 5˚ steps * Tndon board, including flip tack retainer 28729 SC * Length Gauge, graduated, working length 23 cm * Thread hook for the use in cruciate ligament surgery * Femoral target guide, anterior cruciate ligament, drill distance 5.5 mm for drilling diameter 9 mm and 10 mm * Femoral target guide, anterior cruciate ligament, drill distance 4 mm for drilling diameter 7 mm and 8 mm * Drilling-Wire, diameter 2.4 mm, length 38 cm, spiral-shaped polishing   Fluid management system  Arthropump set consists of: 100-240 VAC, 50/60 Hz.  283300201-1 Arthropump 400A Power Cord 20090170 SCB  Connection Cord 3 Tubing Sets irrigation for single use.  On pedal foot switch Tubing set ARTH for Arthropump,  Reusable, sterilizable | |  |
| ORT 10 | Basic instrument set for fracture fixation (ao/ asif specification ) small fragment fracture fixation set (ao type) | 1 set includes :   Alluminium case with lower / upper trays, tray for plates and screw rack — 1 No.    Drill Bit, 2.5mm dia., Length 112/85mm for quick coupling — 2 Nos.    Drill Bit, 3.5mm dia., Length 100/85mm for quick coupling — 2 Nos.    Countersink Shaft 3.5, Length 72mm — 1 No.    Tap for 3.5mm Cortex Screws Length 50/ 110mm — 2 Nos.    Tap for 4.0mm Cancellous Bone Screws Length 110mm — 2 Nos.    T-Handle with quick coupling, L 80mm — 1 No.    Double Drill Sleeve 3.5/2.5 — 1 No.    Insert Drill Sleeve 3.5/2.5, L 42mm Drill Bit 2.5mm dia. — 1 No.    Screwdriver, hexagonal, small, with Holding Sleeve — 1 No.    Screwdriver Shaft, hexagonal, small, L 100mm, for quick coupling — 1 No.    Screwdriver, hexagonal, small, with groove, L 200mm — 1 No.    Holding Sleeve, Length 80mm — 1 No.    Depth Gauge for 2.7mm to 4.0mm Screws — 1 No.    Sharp Hook, Length 155mm — 1 No.    Holding Clip 4.5 - 7.0mm — 2 Nos.    Screw Forceps, self-retaining, Length 85mm — 1 No.    Drill Sleeve 3.5 for neutral and load position — 1 No.    Bending Iron, slit widths 4.5/2.5mm, L 150mm, for Plates 2.7 and 3.5 — 1 No.    Bending Iron, slit widths 2.5/4.5rnm, L 150mm, for Plates 2.7 and 3.5 — 1 No.    Bending Pliers for plates 2.4 to 4.0, L 230 mm. — 1 No.    Bending Template for 3.5 plates, Length 87 mm. — 1 No.    Bending Template for plates Length 114mm. — 1 No.    Wire bending pliers, length 155 mm. — 1 No.    Bending Iron, for Kirschner Wires 1.25 to 2.5mm. dia., length 120mm. — 1 No.    Reduction Forceps with points, L 130mm — 1 No.    Reduction Forceps with points, wide, ratchet lock, L 132mm — 1 No.    Reduction Forceps, toothed, ratchet lock, L 140mm — 1 No.    Bone Holding Forceps, self- centering, speed lock, L 190mm — 1 No.    Retractor, small, 8mm wide, short narrow tip, length 160mm. — 2 Nos.    Periosteal Elevator, round edge, 6mm wide, Length 200mm — 1 No.    Retractor, 15mm wide, length 160 mm. — 2 Nos.    Torque limiting attachment for 1 .5 nm — 1 No. | | 2 |
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| ORT 11 | Basic instrument set for fracture fixation (ao/ asif specification ) large fragement fracture fixation set (ao type) | 1 set includes :    Aluminium case, red, deep, perforated, without contents — 1 No.    Upper Tray for instruments — 1 No.    Reserve Tray, without contents — 1 No.    Lower Tray — 1 No.    Drill Bit, 3.2mm dia, L 145/120mm for quick coupling. — 3 Nos.    Drill Bit, 4.5 mm dia, L 147/120mm for quick coupling. — 2 Nos.    Countersink, large, L 180 mm — 1 No.    T-Handle with quick coupling, L 80mm — 1 No.    Tap for 4.5mm cortex screws, L 70/125mm — 2 Nos.    Tap for 6.5mm cancellous bone screws L 195mm — 1 No.    Double Drill sleeve 4.5/3.2 — 1 No.    Insert Drill Sleeve 4.5/3.2, L 80mm— 1 No.    Double Drill sleeve 6.5/3.2 — 1 No.    Screwdriver shaft, hexagonal, large, L 100 mm — 1 No.    Screwdriver,hexagonal,large, with groove, L 240mm-1 No.    Holding sleeve, large, L 120 mm— 1 No.    Depth Gauge for 4.5 to 6.5 mm screws—1 No.    Sharp Hook, L 155mm — 1 No.    Tension Device, articulate — 1 No.    Combination Wrench, 11mm, L 140mm — 1 No.    Dynamic compression plate drill sleeve 4.5 — 1 No.    Low contact dynamic compression plate drill sleeve 4.5 — 1 No.    Universal drill sleeve 4.5 — 1 No.    Bending template for plates 4.5, L 210 mm — 1 No.    Bending template for plates, L 120 mm —1 No.    Bending template for plates, L 155 mm —1 No.    Ratchet wrench, 11mm, L 140 mm— 1 No.    Bending Pliers for plates, L 250 mm — 1 No.    Bending press, L 400 mm — 1 No.    Torque limited screw driver — 1 No. | | 2 |
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| ORT 12 | Basic instrument set for fracture fixation (ao/ asif specification )mini instrumentation set | 1 set includes :   Alumunium case 1- No.    Lower Tray for instrument 1-No.    Middle tray for instrument 1 No.    Tray for Plats 1 – No.    Screw Rack with lid for mini screw without contant    Drill bit 1.1 mm dia, L 60, /35 mm for quick coupling – 02 No.    Reduction forcep with points, wide, ratchet lock, L 132 mm, wide 1 – No.    Drill bit 1.5 mm dia, L85/60 mm for quick coupling 2- No.    Drill bit 2 mm dia, L102/75 mm for quick coupling 2- No.    Drill bit 2.7 mm dia, L100/75 mm for quick coupling 2- No.    Countersink shaff t 2.7, L 62 mm 1 No.    Countersink shaff t 1.5/2 mm, 1 No.    Handle with mini quick coupling 1 No.    Double drill sleeve 1.5/1.1 – 1 No.    Double drill sleeve 2.0/1.5 – 1 No.    Double drill sleeve 2.7/2.0 – 1 No.    Screw drive shafft hexagonal, small L 100 mm for quick coupling – 1 No.    Screw drive shafft hexagonal, small with groove L 200 mm for quick coupling – 1 No.    Screw drive shafft hexagonal, small with holding sleeve L 100 mm for quick coupling – 1 No.    Depth gauge for 2.7mm to 4.0mm screws – 1 No    Depth gauge for 1.5mm to 2.0mm screws – 1 No    Sharp hook L 155mm – 1 No    Holding clip 4.5-7.5 mm - 6 No.    Screw forceps self retaining, L85 mm - 01 No.    Bending Iron L 130 mm for plates 1.5 & 2.0 – 01 No.    Bending Plier for thin plates 1.5 – 2.7 L1 140 mm – 1 No.    Wire Bending plier L1 55 mm 1 No.    Bending Iron for kwires 0.8 – 1.25 mm dia.    Holding forcep for small plates L 135mm – 1 No.    Retrector, small, 6mm wide short narrowtic L1 60mm 1No.    Retrector, small, 8 mm wide short narrowtic L1 60 mm 1 No.    Periosteal elevator, Straight 3mm wide L 200mm– 01 No.    Retrector, small, 15 mm wide short narrowtic L1 60 mm 1 No. | | 1 |
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| ORT 13 | Spine Instrument | 1 set includes : | | 1 |
|  |  | Spinal retracter straight edge | |  |
|  |  | Spinal retracter with two tips | |  |
|  |  | Annulus knive 5mm width | |  |
|  |  | Annulus knive 10mm width | |  |
|  |  | Annulus knive 15mm width | |  |
|  |  | Capner gouge 6mm width | |  |
|  |  | Capner gouge 8mm width | |  |
|  |  | Capner gouge 11mm width | |  |
|  |  | Capner gouge 16 mm width | |  |
|  |  | Cobb bone elevator 9.5mm width/280mm length | |  |
|  |  | Cobb bone elevator 13mm width/280mm length | |  |
|  |  | Cobb bone elevator 19mm width/280mm length | |  |
|  |  | Bone curette straight 300mm long size 0000 | |  |
|  |  | Bone curette straight 300mm long size 000 | |  |
|  |  | Bone curette straight 300mm long size 00 | |  |
|  |  | Bone curette straight 300mm long size 0 | |  |
|  |  | Bone curette straight 300mm long size 1 | |  |
|  |  | Bone curette straight 300mm long size 2 | |  |
|  |  | Bone curette straight 300mm long size 3 | |  |
|  |  | Bone curette straight 300mm long size 4 | |  |
|  |  | Bone curette straight 300mm long size 5 | |  |
|  |  | Bone curette straight 300mm long size 6 | |  |
|  |  | Bone curette curved 300mm long size 0000 | |  |
|  |  | Bone curette curved 300mm long size 000 | |  |
|  |  | Bone curette curved 300mm long size 00 | |  |
|  |  | Bone curette curved 300mm long size 0 | |  |
|  |  | Bone curette curved 300mm long size 1 | |  |
|  |  | Bone curette curved 300mm long size 2 | |  |
|  |  | Bone curette curved 300mm long size 3 | |  |
|  |  | Bone curette curved 300mm long size 4 | |  |
|  |  | Bone curette curved 300mm long size 5 | |  |
|  |  | Bone curette curved 300mm long size 6 | |  |
|  |  | Rod cutter from 3.0mm to 4.0mm | |  |
|  |  | Rod cutter from 3.0mm to 6.0mm | |  |
|  |  | Laminectomy retracter | |  |
|  |  | Beckmann-adsonretracter with hinged arms, 4/4 sharp prongs, 18mm deep, 310mm long | |  |
|  |  | Beckmann-adsonretracter with hinged arms, 4/5 blunt prongs, 28mm deep, 330mm long | |  |
|  |  | Beckmann-adsonretracter with hinged arms, 7/7 sharp prongs, 47mm deep, 320mm long | |  |
|  |  | Lamina spreader, straight jaws, 08mm wide, 280mm long | |  |
|  |  | Lamina spreader, straight jaws, 12mm wide, 280mm long | |  |
|  |  | Lamina spreader, curved jaws, 08mm wide, 280mm long | |  |
|  |  | Lamina spreader, curved, jaws,12mm wide, 280mm long | |  |
|  |  | Love nerve root retracter, straight 9mm/6mm blade 220mm long | |  |
|  |  | Love nerve root retracter, angled 45°9mm/6mm blade, 220mm long | |  |
|  |  | Love nerve root retracter, angled 90° 9/6mm blade, 220mm long | |  |
|  |  | Intervertebral disc ronger, straight, width of jaw, 2.0mm200mm long | |  |
|  |  | Intervertebral disc ronger, straight, width of jaws, 3.0mm 200mm long | |  |
|  |  | Intervertebral disc ronger, straight, width of jaw, 4.0mm 200mm long | |  |
|  |  | Intervetebral disc ronger, 45° upward curved jaws, width of jaws, 2.0mm, 200mm long | |  |
|  |  | Intervetebral disc ronger, 45° upward curved jaws, width of jaws, 3.0mm, 200mm long | |  |
|  |  | Intervetebral disc ronger, 45° upward curved jaws, width of jaws 4.0m, 200mm long | |  |
|  |  | Intervetebral disc ronger, 45° downward curved jaws, width of jaws, 2.0mm, 200mm long | |  |
|  |  | Intervetebral disc ronger, 45° downward curved jaws, width of jaws, 3.0mm, 200mm long | |  |
|  |  | Intervetebral disc ronger, 45° downward curved jaws, width of jaws 4.0m, 200mm long | |  |
|  |  | Kerrisonronger, large handle, up cutting, 90° angled jaws, size of jaw, 2.0/3.0mm, 200mm long | |  |
|  |  | Kerrisonronger, large, handle, up cutting, 90° angled jaws, size of jaw, 3.0mm/4.0mm, 200mm long | |  |
|  |  | Kerrisonronger, large handle, up cutting, 90° angled jaws, size of jaw, 4.0mm/5.0mm, 200mm long | |  |
|  |  | Kerrisonronger, large handle, up cutting, 45° angled jaws, size of jaw, 2.0/3.0mm, 200mm long | |  |
|  |  | Kerrisonronger, large handle, up cutting, 450° angled jaws, size of jaw, 3.0mm/4.0mm, 200mm long | |  |
|  |  | Kerrisonronger, large handle, up cutting, 45° angled jaws size of jaw, 4.0mm/5.0mm, 200mm long | |  |
|  |  | Hexagonal screw driver 1/8 ˝ | |  |
|  |  | Side handle wrench 3/8 ˝ | |  |
|  |  | Side handle wrench 5/16 ˝ | |  |
|  |  | Tap 5.5mm with fixed handle | |  |
|  |  | Tap 6.25mm with fixed handle | |  |
|  |  | Tap 7.0mm with fixed handle | |  |
|  |  | Pedicle probe 3.0mm | |  |
|  |  | Pedicle probe 4.0mm | |  |
|  |  | Speed wrench 3/8 ˝ | |  |
|  |  | Speed wrench 5/16 ˝ | |  |
| ORT 14 | Arthroscopic Instrument imported | 1 set includes : | | 1 |
|  |  | Arthroscopic punch (4.5mm) up cutting | |  |
|  |  | Arthroscopic punch (4.5mm) right curved | |  |
|  |  | Arthroscopic punch (4.5mm) left curved | |  |
|  |  | Cautry probe | |  |
|  |  | Canulatedobturator (5mm) | |  |
|  |  | Spiral trochar inflow | |  |
|  |  | Spiral trochar out flow | |  |
|  |  | Arthroscopic shaver system with foot swithch& Hand Piece attatchments | |  |
|  |  | shaver blades | |  |
|  |  | Burr | |  |
|  |  | Suture pusher | |  |
|  |  | Microfracture awl | |  |
|  |  | Leg holder | |  |
|  |  | Grasper, Left | |  |
|  |  | Suture Passer, Right | |  |
|  |  | Cannulated Switching Stick | |  |
|  |  | Biter | |  |
|  |  | Grasper, Straight | |  |
|  |  | Suture Passer, Straight | |  |
|  |  | Suture Grasper | |  |
|  |  | Suture Cutter | |  |
|  |  | Tissue Liberator | |  |
|  |  | Curette | |  |
|  |  | Probe | |  |
|  |  | Rasp | |  |
| ORT 15 | Total hip replacement (THR) set (cemented, uncemented and bipolar) | 1 set includes :  Shall be FDA/CE approved  1. Should be FDA or CE approved product.  2. Manufacturer should also have ISO certification for quality standards.  3. Comprehensive training for OT staff and support services till familiarity with the system on site.  Documentation  1. User/Technical/Maintenance manuals to be supplied in English.  2. Certificate of calibration and inspection.  3. List of Equipments available for providing calibration and routine Preventive Manitenance Support as per manufacturer service/maintenance manual.  4. List of important spare parts and accessories with their part number and costing.  5. Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of hospital technician and company technician clearly spelt out.  6. Compliance report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number with authenticated catalogue/manual, without which it will not be considered.  7. Prebid conference may be called for satisfaction of the experts if felt by the experts.  Environmental factors  1. The unit shall be capable of being stored continuously in ambient temperature of 0-50 deg C and relative humadity of 15-90%.  2. The unit shall be capable of operating continuously in ambient temperature of 10-45 deg C and relative humadity of 15-90%.  Uncemented THR instruments  Shall be FDA/CE approved   |  |  | | --- | --- | | S. No. | Item | | 01. | Charnley’s Self Retaining retractor | | 02. | Vacuum liner inserter 28 or 22 mm | | 03. | Mechanical liner inserter 22 mm or 28 mm | | 04. | Liner/ shell disassembly instrument | | 05. | Liner extractor | | 06. | Gun sight alignment guide | | 07. | Alignment rod | | 08. | Drill guide | | 09. | Screw driver universal | | 10. | Screw driver straight | | 11. | Modular universal handle | | 12. | Screw forceps 15\* | | 13. | Flexible depth guage | | 14. | A Frame Alignment Guide | | 15. | Liner provisional 46x(22or 28mm) | | 16. | Liner provisional 48x(22or 28mm) | | 17. | Liner provisional 50,52,54,56x(22or 28mm) | | 18. | Shell provisional’s 46mm | | 19. | Shell provisional’s 48mm | | 20. | Shell provisional’s 50mm | | 21. | Shell provisional’s 52mm | | 22. | Shell provisional’s 54mm | | 23. | Shell provisional’s 56mm | | 24. | Flexible drill bit 15mm, 30mm and 45mm | | 25. | Impacting plate for shell for various sizes | | 26. | Acetabular cup pusher | | 27. | Impactor lock nut | | 28. | Acetabular cup remover | | 29. | Acetabular reamer 40mm or 42mm | | 30. | Acetabular reamer 44mm | | 31. | Acetabular reamer 46mm | | 32. | Acetabular reamer 48mm, 50,52,54 and 56mm | | 33. | Shaft for Acetabular reamer | | 34. | Coupling handle for shaft | | 35. | Nylon face Impactor | | 36. | Cup Impactor-positioner | | 37. | Screw for left forceps 45\* |   Uncemented THR  Shall be FDA/CE approved   |  |  | | --- | --- | | S. No. | Item | | 01. | Osteotomy guide 9-10mm, 11, 12-13, 14-15 | | 02. | Box osteotome small | | 03. | Tapered awl | | 04. | Thandle with chuck | | 05. | Trochanteric reamer | | 06. | IM Reamer 9 to 15mm in 0.5 mm increment | | 07. | Rasp 9,10mm, 11,12,13,14,15mm | | 08. | Rasp alignment tip 9,10,11,12,13,14,15 | | 09. | Rasp tip wrench | | 10. | Cal car planer | | 11. | Cone provisional 09/10,11,12/13,14/15 | | 12. | Femoral HEAD provisional 22mm | | 13. | Femoral head provisional 28mm | | 14. | Rasp handle | | 15. | Alignment rod | | 16. | Stem Impactor | | 17. | Stem driver/inserter adaptor | | 18. | Extractor hammer | | 19. | Head Impactor | | 20. | Tommy bar |   Total Hip Replacement (Cemented) instruments-  Shall be FDA/CE approved   |  |  | | --- | --- | | S. No. | Item | | 01. | Osteotomy template | | 02. | Box osteotome | | 03. | Taper reamer | | 04. | Trochanteric reamer | | 05. | Straight reamer9mm | | 06. | Muller Rasp of various sizes | | 07. | Rasp handle | | 08. | Cone provisional | | 09. | Allen medullary plug of various sizes | | 10. | Allen plug introducer | | 11. | Cement restrictor plate and seal | | 12. | Femoral pressuriser plate and seal | | 13. | Muller stem Impactor | | 14. | Stem extractor | | 15. | Head trials 22/28 mm XS | | 16. | Head trials 22/28 mm XM | | 17. | Head trials 22/28 mm XL | | 18. | HEAD Impactor | | 19. | Acetabular reamer of various sizes | | 20. | Shaft for Acetabular reamer | | 21. | Coupling T handle | | 22. | Reamer adapter | | 23. | Acetabular cup trials 43,45,47,49,51,53,55,57,59 | | 24. | Cup pusher cum positioner | | 25. | Alignment rod | | 26. | Pusher rod with plastic head 22 and 28 mm | | 27. | Acetabular preparation drill with stop 9,11,13mm | | 28. | Stem holder | | 29. | Bone cement gun: Cartridge Type, Clear Cartridge-disposable Blade, Two-speed injection gun, large selection of nozzles, Up to 3 batch capacity for any application | | | 1 |
| ORT16 | Total Knee Replacement (Cemented) instruments- | 01 Nos  Shall be FDA/CE approved | | 1 |
|  |  | |  |  | | --- | --- | | S. No. | Item | | 01. | Intramedullary Drill w/Step | | 02. | IM Femoral A/P Sizing Guide | | 03. | Universal Handle Peg Driver | | 04. | Intramedullary Alignment Guide 9 & 4 Inches | | 05. | Anterior Femoral Cutting Guide 1x2 | | 06. | Rotational Alignment Guide | | 07. | IM Distal Femoral Cutting Guide | | 08. | IM Femoral A/P Measuring Guide | | 09. | IM Femoral Finishing Guide of various sizes | | 10. | Trochlear Recess Finishing Guide of various sizes | | 11. | Notch / Chamfer Guide of various sizes | | 12. | Alignment Rod, Alignment rod with Coupler | | 13. | Extramedullary Alignment Arch | | 14. | Femoral Trial Left and Right of various sizes | | 15. | Universal Femoral File | | 16. | IM Femoral Impactor | | 17. | Spacer/Align Guide of various sizes | | 18. | Femoral Provisional Extractor | | 19. | T. Handle with Chuck | | 20. | ExtramedullaryTibial Cutting Guide | | 21. | Universal Ligament Retract Spring | | 22. | Tibial Depth Resection Gauge 1 nos | | 23. | Femoral Recutter 1 nos | | 24. | Stemmed Tibial Sizing Plates of various sizes | | 25. | Tibial Provisional / Holding Clamp 1 nos | | 26. | Cemented stemmed drill guide on e | | 27. | Cemented stemmed tibial drill | | 28. | Stemmed tibial broaches of various sizes | | 29. | Tibial provisional extractor | | 30. | TibialImpactor | | 31. | Stemmed tibial provisional Impactor | | 32. | Short spring screws pins | | 33. | Grooved shout head holding pins | | 34. | Holding pins | | 35. | Headless holding pin | | 36. | Hexhead holding pins | | 37. | Tibial resection guide | | 38. | Articular surface insertion instrument | | 39. | Articular surface removal instrument | | 40. | Female hex driver/extractor | | 41. | Patella tendon retractor | | 42. | Hex head screwdriver | | 43. | Holding pin plier | | 44. | Patellar clamp | | 45. | Patellar drill guides | | 46 | Patellar saw guide | | 47. | Patellar/femoral drill | | 48. | Patella trials of various sizes | | 49. | Female hexa screw driver | | 50. | Varus / valgus tibialrecutter | | 51. | LPS Articular Surface provisional locking screw | | 52. | Stemmed tibial plate provisional of various sizes | | 53. | Townley femur caliper | | 54. | Tibial retractor | | 55. | Slap hammer | | 56. | Bone screw drill 3.2mm | | 57. | Recutter 2mm | | 58. | A/Surface trial of various sizes | | |  |
|  |  |  | |  |
| ORT17 | Arthroscope auto-clavable instrument | 1 Set includes :   | No | DIRECT VIEW, ARTHROSCOPE AUTOCLAVABLE | | --- | --- | | 1. | Arthroscope:  • 4.0 mm - 30˚, 70° (two )  • 2.9 mm - 0°, 30°, 70° (three) | | 2. | Cannula for arthroscope:  • operative cannula with blunt trocar and obturator for 4 mm arthroscope and 2.9mm 1 each | | 3. | Hand Instruments for knee arthroscopy:  Hook Probe calibrated 2  3.4 mm grasping forceps with ratchet / without rachet 1 each  3.4 mm straight big bite punch forceps / without rachet 1 each  3.4 mm 30˚ left big bite punch forceps 2  3.4 mm 30˚ right big bite punch forceps 2  3.4 mm 15˚ up bit punch forceps 2  3.4 mm hook scissors 2  Cigar punch 2  3.4mm 45 deg. Left right punch forcep 1 each | | 4. | Hand instruments for shoulder arthroscopy:  Hook Probe calibrated. 2  3.4 mm grasping forceps with ratchet / without rachet 1 each  3.4 mm straight big bite punch forceps / without rachet 1 each  3.4 mm 45˚ left big bite punch forceps 1 each  3.4 mm 70˚ right big bite punch forceps 1 each  3.4 mm 15˚ up bit punch forceps 1 each  3.4 mm hook scissors 1 each  Graspers 1 each | | 5. | Hand instruments for arthroscopy of small joints:  Hook Probe calibrated. 1 each  2.75 mm grasping forceps with ratchet / without rachet 1 each  2.75 mm straight big bite punch forceps / without rachet 2  2.75 mm 30˚ left big bite punch forceps 2  2.75 mm 30˚ right big bite punch forceps 2  2.75 mm 15˚ up bit punch forceps 2  2.75 mm hook scissors 2  Graspers 2 | | 6. | Camera  1. Three-chip Camera with Head  1. Progressive scan technology camera with optimum image quality and good resolution.  2. Hi definition Video -1280-1024 natvie resolution should have thumb control for brightness / 200m / contrast.  3. Multi specialty setting user selectable specialty settings which customize video outputs for the needs of all surgeries.  4. With automatic focus.  Technical Details:  1. Imaging system – 1/3” Progressive scan.  2. Resolution 1100 lines minimum.  3. Signal noise ratio – 70db or cm.  4. Minimum illumination - < 0.8 lux.  5. Auto shutter – 1/60 – 1/50,000.  6. Grain – 5 levels 0-20 db.  7. Engance – 16 – levels.  8. Zoom-digital.  9. Electronic shutter adjustment.  10. Flexible scope filter.  11. Auto brightness control technology.  12. 8 function programmable head.  13. Video outputs – Composite, SVHS, DVI, RGB.(HD)  14. Connector – Super limo gold pin connector. | | 7. | 300 watts Xenon light source  Xenon light source with auto light adjustment, single handed cable insertion, the bulb should have a life time of 500 hours and provide 6 extra bulbs  Light source with standby mode and auto shutter switch, should have the manual intensity control.  The light source should be compatible with any light cable make.  Cable | | 8. | LCD Monitor 19” panel - 1  Screen size 19”.  Native resolution 1280\*-1024  Pixel pitch 0.294  Contrast ratio > 600:1  Brightness 350.  Viewing angle (U/D/L/R) less than from above/below/left and right.  Input S – video/C/VGA/DVI.  Fast response time.  Serial port USB : Full serial port protocol embedded USB port.  Power 90-240 Vac, 15Vde | | 9. | Digital capturing device  1. Digital capturing device with a USB connection to allow high speed data transfer to a variety of media types (USB hard drive, Media card reader. USB hard drive, Media card reader, USB Flash card).  2. The Machine should have a software package to origanize photographs and videos.  3. Print option from the machine should be available.  4. Machine too should the capability to annotate images and videos.  5. The machine should be able to burn images and videos to CD and DVD, DVD+R, DVD+RW.  6. Images should be printable on 8 ½ x 11 paper size.  7. Should automatically print 1,2,4,,12 or 18 images per page.  8. Patient and surgical data should be directly taken in a print out.  9. Video files MPEG1, MPEG2, MPEG4.  10. Should have the capacity to write MPEG files in a data or video format.  11. Should accommodate separate audio files. | | 10. | Shaver system  • Console 220 V, electrically operated (digitally controlled circuit speed control (adjustable speed).  • Foot switch – Bi-directional control speed control Forward, Reverse and Oscillation modes.  • Shaver hand piece with total suction control.  A0a) weight( )  b)bb) compatible with heads  • Detachable hand switch – autoclavable and telescopic.  • Synovial resector.(hand piece instrument)  • Full radius cutter. (hand piece instrument)  • Bone cutter. (hand piece instrument)  • Burr. (hand piece instrument) | | 11. | Endoscopy Radiofrequency Ablation System  Radio Frequency Ablation Generator Console – 1 No.  Features:  1. Bipolar ablation system, hand controlled ablation probes with multiple button functions and should allow operating cut and coagulation as well as changing the power settings on the system.  2. with both suction and non-suction probes.  3. with footswitch option.  Technical details Generator:  1. Waveform – frequency of the signal – 461 kHz.  2. Dimensions 31 x 38 x 10.5 cm.  3. Maximum cut output – 225 watts.  4. Maximum coagulation output – 40 watts.  5. Operation temperature range – 10 deg C to 40 deg C.  6. Operating range – 200-240 VAC @ 50 Hz. | | 12. | Radio frequency energy probes  For Knee Arthroscopy:  1. Probes for Menisectomy – 90°  2. Probes for posterior menisectomy 50 degrees.  3. Probes for Articular Cartilage Debridement Ablation.  4. Probes for soft tissue deibridement – ablation.  For Shoulder Arthroscopy:  1. Subacromial decompression 90° ablation  2. Capsular release ablation probes  For Small Joints:  1. Ablators for small joints – 45°  2. Ablators for small joints – 90°  3. Ball electrode  Features  1. Probes should be designed with a rigid shaft in order to prevent unwanted bending during use, non suction probes should be bent up to 45 deg. with a probe bender.  2. Each probe should be designed with integrated cable allowing for easy case preparation and clean up.  3. All probes should be equipped with a memory chip that contains specific optimized settings for each probe.  **ACL Instruments:**  Tibial drill guide Spine (C guide).   * 1. Elbow airway   Tibial drill guide bold.  Tibial drill guide double point forked arm.  7 mm Femoral aimer.  7 mm Femoral fluted reamer.  8 mm Femoral fluted reamer.  9 mm Femoral fluted reamer.  10 mm Femoral fluted reamer.  11 mm Femoral fluted reamer.  8 mm Tibial Cortex Reamer  9 mm Tibial Cortex Reamer  10 mm Tibial Cortex Reamer  11 mm Tibial Cortex Reamer  **Tunnel Notcher**:  mm femoral eye loop guide pin 18” pack of 6  2.4 mm Tibial guide pin 9” pack of 6  1.5 mm x 3.5 mm Hex driver with 1.5 mm cannulation  a) small joints  b) large joints.  **Shoulder Instruments:**  Sabilihook, leff / right 1each  Cuff hook, left / right 1each  Stich blade suture cutter / manipulator  Crochet hook  Knot pusher  Rasp 20’ up / down 1each  Tissue Liberator Blade up / down 1each  Soft Tissue Grasper  4 mm wissinger rod small  5 mm wissinger rod large  Wissinger rod handles  4 mm switching stick small  5 mm switching stick large | | | 1 |
|  |  |  | |  |
| ORT18 | General instrument set | 1 set includes:- | | 8 sets |
| Mayo Heagars Needle Holder 150mm, 200mm 1 each | |  |
| Metzenbaum Scissors Straight, Curved-180MM 1 each | |  |
| Mayos Scissors Straight, Curved-160 1 each | |  |
| Dressing Scissors Blunt X Blunt Straight, 150MM 1 each | |  |
| Littauer Ligature Scissors 135mm 1 | |  |
| Standard Dissecting Forceps Plain, Tooth 150mm 1 each | |  |
| Gillies Dissecting Forceps Plain 180mm 1 | |  |
| GilliesDissecting Forceps Tooth 180m 1 | |  |
| Mayo Safety Pin Instrument Holder 140 mm 2 | |  |
| Backhaus Towel Clips 110mm 6 | |  |
| Allis Tissue Forceps 200mm 4 | |  |
| Sponge Holding Forceps 200mm 2 | |  |
| Mixters Ligature Forceps 200mm 2 | |  |
| Kochers Forceps Straight 200mm 2 | |  |
| Kochers Forceps Curved 200mm 2 | |  |
| Halsted Mosquito Forceps Straight 125mm 2 | |  |
| Halsted Mosquito Forceps Curved 125mm 4 | |  |
| Morris Retractor 30x40mm, 220mm 2 | |  |
| Langenbeck Retractor 90x20mm 215mm 2 | |  |
| Single Skin Hook Retractor Sharp 160mm 2 | |  |
| Single Skin Hook Retractor Blunt 160mm 2 | |  |
| Senn Miler Skin Retractor 165mm 2 | |  |
| B.P. Handle 1 set includes | |  |
| a. No. 3 to fit Blade 10-15 1 | |  |
| b. No. 7 to fit Blade 10-15 1 | |  |
| c. No 3L to fit Blade 10-15 1 | |  |
| d. No. 4 to fit Blade 18-25 1 | |  |
| e. No 4L to fit Blade 18-25 1 | |  |
| Adson Baby Retractor, Blunt 4x3 Prongs 143mm 2 | |  |
| Adson’s tooth forcep ( small & large, Plain/ tooth both) 1 each | |  |
| MollisonRetracto sharp 4x4 prongs 150mm 2 | |  |
| American Pattern suction tip with stillet size 5 2 | |  |
| ORT19 | General orthopaedic instrument set |  | | 4 |
| Screw Driver Hexagonal 1 set includes : | |  |
| a Fiber Handle Small 3.5mm 1 | |  |
| b. Fiber Handle Larger 4.5mm 1 | |  |
| c. With Self Retaining Sleeves 3.5 mm 1 | |  |
| d. With Self Retaining Sleeves 4.5mm 1 | |  |
| English Piler Cum Cutter 1 | |  |
| Wire Bender with Cutter  1 set includes | |  |
| a. Plier Cum Bender Cum Cutter 7" 1 | |  |
| b. Plier Cum Bender Cum Cuter 9" 1 | |  |
| Pointed Reduction Clamp Small, medium, large 150, 210, 240 2 each | |  |
| T Handle with Jacobs Chuck 1 | |  |
| T handle with chuck for K wire 1 | |  |
| Hammer with metalic handle 500 gm, 1000 gm. 1each | |  |
| Square Punch 1 | |  |
| Cloward Punch/Impactor 1 | |  |
| Distractor for indirect reduction of fractures for long bones AO mullers type with pins 1 | |  |
| Chisel Straight with metalic handle and head capable of tolerating multiple impacts without deforming. Blade of high strength hard stainless steel 5 m.m. 10 m.m., 15 m.m. , 20 m.m. , 25 m.m. , 30m.m. 1 each | |  |
| Chisel Curved with metalic handle and head capable of tolerating multiple impacts without deforming. Blade of high strength hard stainless steel 5 m.m. 10 m.m., 15 m.m. , 20 m.m. , 25 m.m. , 30m.m. 1 each | |  |
| Gouge Straight with metalic handle and head capable of tolerating multiple impacts without deformation . Blade of high strength hard stainless steel 5 m.m.withmetalic handle and head capable of tolerating multiple impacts without deforming. Blade of high strength hard stainless steel 10 m.m. 5mm 10 mm 15mm 20 mm 1 each | |  |
| Gouge Curved withmetalic handle and head capable of tolerating multiple impacts without deforming. Blade of high strength hard stainless steel 10 m.m. 5mm 10 mm 15mm 20 mm 1each | |  |
| Kapner Gouge 10mm 15 mm 20 mm 1 each | |  |
| Bone Nibblers Double action with straight and curved jaws (Saggital and coronal plane) 2mm 5mm 10mm 1each | |  |
| Bone Cutters - Laminectomy Forceps Curved and Straight - Heavy duty 1each | |  |
| Rib Shears Rib raspatory Right & left sides 1each | |  |
| Cobbs Elevator 1 | |  |
| Bone levers (Hohman's type for small, medium and large bones) 2each | |  |
| Screw Drivers Hexagonal head to fit AO 3.5 m.m.& 4.5 m.m. screw with flattened handles with long and medium size shafts. 1 | |  |
| Wire Tightner Wire Tightner/Twister (AO/ASIF Make or Manufactured by company Authorized by AO) imported 1 | |  |
| Dynamometer (Dynamic wire tensioner for Illizarov) 1 | |  |
| Bone Holding Forceps (AO Type) – Small Medium Large 2 each | |  |
|  | |  |
|  | |  |
| Plate Holding Forceps (AO Type) – Small Medium Large 2each | |  |
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|  | |  |
| Reduction Clamps (AO Type) – small Medium large 2each | |  |
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| Ss wise Introducer –small large 1each | |  |
| - | |  |
| Nose Pliers 1 | |  |
| Wire Bender 1 | |  |
| Wire cutter (up to 2.5 mm Ss wires) 1 | |  |
| Plate Bender Heavy duty table type (AO/ASIF Make or Manufactured by company Authorized by AO) 2 | |  |
| Bone Hook small medium 1each | |  |
| Drill Bits 2.5 m.m.dia 3.2 m.m.dia 4.5 m.m.dia 3.5 mm. dia 1 each | |  |
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| Hand held reamers For large bone 8mm to 16mm 1each | |  |
| Hand held reamers For small bone 2mm to 8mm 1each | |  |
| Impactor 1 | |  |
| Bone file 1 | |  |
| Bone nibbler double action Medium size (Straight & curved 1each | |  |
| Bone nibbler double action large size(Straight & curve) 1each | |  |
| Self retaining patellar clamp all sizes 1each | |  |
| Bone hook( all sizes) 1each | |  |
| Scale 12” stainless steel 1 | |  |
| Scale 6” stainless steel 1 | |  |
| Bone curette single ended straight and angled with oblong handle cup diameters 2mm, 4mm, 6mm, 8mm ,10mm 1each | |  |
| Periosteumelavator Straight and angled, Sizes - small,medium,large 1each | |  |
| Bone cutter( medium & large) 1each | |  |
| Ring curette( Different size & angle) 1each | |  |
| Counter sink For 3.5 &4.5 mm screws 1 each | |  |
| Bone awl ( straight) For tibia & femur & small bones 1each | |  |
| Bone awl (curved) For tibia & femur & small bones 1each | |  |
| Depth gauge ( small, medium,large) For 2.5,3.5,4.5 and 6 mm screws 1each | |  |
| Drill sleeve For 2.5,3.5,4.5 mm screws 1each | |  |
| Drill Guide Loded& Neutral for small, medium & large fragment plates | |  |
| ORT 20 | K Nail extractor | Set including extractor hook 3 in no. with adaptable extractor rod with inbuilt hammer (heavy duty) | |  |
| ORT 21 | Operative Binocular Loop | Magnification up to 5x | |  |
| Depth of field 30 to 45 cms | |  |
| With head mounted light source | |  |
| ORT 22 | Interlock Nailing instrumentation set | Interlock Nailing instrumentation set with flexible reamers with ½ m.m. increments from 8 m.m. to 15 m.m. diameters with flexible shaft with quick coupling 'T' handle for flexible reamer shaft (AO/ASIF Make or Manufactured by company Authorized by AO) | |  |
| ORT 23 | Locking Compression Plate Instrumentation Set | Locking Compression Plate Instrumentation Set for 3.5 and 4.5 mm. dia (AO/ASIF Make or Manufactured by company Authorized by AO) | |  |
|  |  |  | |  |
| ORT 24 | Drill and Saw Set   1. Pneumatic Power Drill | 1 set includes :  (A)     Hand piece having - | | 2 |
|  |  | -         Jacobs chuck | |  |
|  |  | -         Quick coupling chuck | |  |
|  |  | -         Chuck for K wire | |  |
|  |  | (B)     Reamer attachment | |  |
|  |  | (C) Oscillating saw attachment with assortment of blades. | |  |
|  |  | *As per AO/ASIF specifications* | |  |
|  |  | (C)     Hand piece (fully cannulated 3.2mm diameter) having | |  |
|  |  | - Separate forward and reverse triggers. | |  |
|  |  | - Variable speed from 0-800 RPM | |  |
|  |  | - Safety device to cut off air supply to drill on handpiece. | |  |
|  |  | - Should be capable of accommodating the radiolucent drive. | |  |
|  |  | - Fully autoclavable. | |  |
|  |  | - All attachments can be fitted on single handpiece | |  |
|  |  | -  The reverse trigger should automatically lock when the oscillating saw and the reduction drive attachments are attached to the handpiece. | |  |
|  |  | -  Air consumption upto 333 L/min. | |  |
|  |  | -  Operating pressure upto 7 bars. | |  |
|  |  | -  Weight of handpieceupto 1 kg. | |  |
|  |  | -  Handpiece must be compatible to oscillating drill attachment. | |  |
|  |  | -  With nitrogen / compressed air regulator. | |  |
|  |  | -  Handpiece drill torque forward 30 in LBS. | |  |
|  |  | -  Drill torque reverse 20 in LBS. | |  |
|  |  | -  Reaming speed forward 250 RPM | |  |
|  |  | -  Ream torque 100 in LBS. | |  |
|  |  | (D)     Should have following attachment :- | |  |
|  |  | 1. Jacob's chuck attachment. | |  |
|  |  | -  Chuck capacity upto 6mm for round shaft, and triangular shafts up to 6.35 mm. | |  |
|  |  | -  Cannulation of 3.2 mm diameter. | |  |
|  |  | -  Maximum speed of 900 rpm | |  |
|  |  | -  Torque of 4 Nm. | |  |
|  |  | 2. Reduction Drive for intramedullary / acetabular reaming. | |  |
|  |  | 3. Quick coupling for K-wire. | |  |
|  |  | -  Continuous adjustment facility for wire diameter from 0.6 to 3.2 mm. | |  |
|  |  | -      Speed upto 750 rpm. | |  |
|  |  | 4. Oscillating Saw Attachment. | |  |
|  |  | -  Weight less than 900 gms. | |  |
|  |  | -  Should allow settings of oscillating angles from 2.5 to 5.0 degrees without interrupting sawing. | |  |
|  |  | -  Oscillating frequency up to 12,500 oscillations/min. | |  |
|  |  | -  With saw blades for osteotomy (1 each) — 70 to 91 mm Total length, 50 to 71 mm. Usable length, 14 to 27 mm width and 0.4 to 1.0 mm thickness | |  |
|  |  | -  With saw blades for knee surgery (1 each) 95mm length, 19 to 25mm width and 0.9 to 1.4mm thickness. | |  |
|  |  | 5. Flexble Reamer Shaft 8mm (Dia) Fixed Head | |  |
|  |  | Flexble Reamer Shaft For Detachable Heads Up To 12 mm | |  |
|  |  | Reamer Heads, From 8.5mm To 15.00mm (Set Of 8) | |  |
|  |  | Flexble Reamer Shaft StdLengh 440 mm- 540mm | |  |
|  |  | 6. Quick coupling for dynamic hip / compression screw triple reamer : | |  |
|  |  | -  Cannulation of 3.2mm. | |  |
|  |  | -  Can accommodate a triple reamer. | |  |
|  |  | 7. Quick coupling for drilling and tapping attachment : | |  |
|  |  | -  Should have maximum speed of 900 rpm. | |  |
|  |  | 8. Double Air Hose :- | |  |
|  |  | - Length at least 15 feet. | |  |
| ORT25 | Electric Drill | Electric Driving Unit Includes Motor  220volts /5amp, Stand,  Foot Controlfor On/Off And Speed,  Flexible Shaftlength 2m,  Wt. 1000 GmsApprox,Autoclavable  Tool Kit, Oil Bottle & Special Container.  With  5.5mm Cannulated Drill Handpiece  Max. Speed 1200 Rpm & With Fixed S.S.  Chuck (0-1/4"),  Wt. 800 GmsApprox, Autoclavable.  Straight Saggital Saw (Set Of Five Blades)  Reaming Handpiece With Max. Speed 400 Rpm  Cannulated5.5mm , &Ao Type Quick Coupling,Wt. 750 Gms  Approx,Autoclavable And  Jocobs Chuck Adaptable To Hand Peace  Flexble Reamer Shaft 8mm (Dia) Fixed Head  Flexble Reamer Shaft For Detachable Heads Up To 12 mm  Reamer Heads, From 8.5mm To 15.00mm (Set Of 8)  Flexble Reamer Shaft StdLengh 440 mm- 540mm | | 4 |
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| ORT26 | Battery Operated Drill | Stainless Steel Chuck (0-6.35mm) with adaptor provided | | 4 |
|  |  | Max. Speed 525 rpm. | |  |
|  |  | Fully Cannulated (5.5mm). | |  |
|  |  | Forward / Reverse facility with lock | |  |
|  |  | Weight with pack 1.12 KgsApprox | |  |
|  |  | For autoclaving – drill with cap should be wrapped intowels (without battery packs) | |  |
|  |  | Battery pack should be sterilized in formalin chamber. (No steam sterilization) and should be standard quality. | |  |
|  |  | Charger not to be sterilized | |  |
| ORT27 | Manual Drill | Autoclavable with stainless steel body with key | | 8 |
|  |  | a) Open gear with jacob chuck for orthopaedic use with key for Jacob chuck | |  |
|  |  | b) close gear with jacob chuck for orthopaedic use with key for Jacob chuck | |  |
| ORT 28 | Electronic Pneumatic Tourniquet | 1 set includes : | | 4 |
|  |  | Should have option for bier’s block bilateral procedures.  Cuff Pressure Range: 10 To 450 Mm Hg. | |  |
|  |  | Pressure Regulation: +- 10 Mm Hg. Of Set Point. | |  |
|  |  | Online Setting: Increase And Decrease In Pressure Settings. | |  |
|  |  | Timer: Range From 9 Hours To 59 Minutes. | |  |
|  |  | Internal Least Count: Timer 1 Minute / Internal 1/1000 Second. | |  |
|  |  | Alarm: Audible On Timer Equaling Set Value. | |  |
|  |  | Memory Function: Pressure | |  |
|  |  | Set In Earlier | |  |
|  |  | Session Is Stored And | |  |
|  |  | Displayed | |  |
|  |  | When The Machine Is Switched | |  |
|  |  | On Again. | |  |
|  |  | Back Up: 3 Hours Battery Backup (In Case Of Full Charge). | |  |
|  |  | Switchover: Automatic Switchover From Offline To Online (Vise Versa). | |  |
|  |  | Power: 230v (Ac) / 50 Hz +\_ 10%. | |  |
|  |  | Stabilizer : Inbuilt. | |  |
|  |  | Digital Display: Digital Display | |  |
|  |  | Of Set Pressure, Actual | |  |
|  |  | Pressure, Time Elapsed & | |  |
|  |  | Set Time. | |  |
|  |  | Silicon Autoclavable Cuff: Different Sizes Of 5 Cuffs - Washable & Easy Fitting (Paediatric, Small, Medium, Big & Large). | |  |
|  |  | Dimensions: 222.25mm (I) X | |  |
|  |  | 139.7mm (W) X 101.6mm (H) | |  |
|  |  | Weight : 3.9 Kg | |  |
|  |  | Rechargeable battery operated system. Charger to be provided if integrated charger not there. | |  |
| ORT 29 | Pulse Lavage Pump | 1 set includes : | | 2 |
|  |  | Controlled And Precise Irrigation And Clearing Of Operating Site. | |  |
|  |  | • Irrigation Pressure Can Be Electronically Controlled. | |  |
|  |  | • Complete Sterility Of System Is Maintained. | |  |
|  |  | • Tubes Are Of Medical Grade Silicon And Are Autoclaveble. | |  |
|  |  | • Multiple Bottles Can Be Attached For Fast Irrigation. | |  |
|  |  | • Easy Loading Of tubes In The Machine | |  |
|  |  | • Accepts Irrigation Bags Or Bottles. | |  |
|  |  | • Water Resistant Front Panel With Feather Touch Switches. | |  |
|  |  | • Digital Read Out Of Pulse /Min | |  |
|  |  | • Dual Spike Capability | |  |
|  |  | • Efficient Peristaltic Pump. | |  |
|  |  | • Simple On/Off Switch | |  |
|  |  | Three Tip Connections Should Included Are: | |  |
|  |  | 1. Shower Spray Tip Multiorifice With Splash Shield For Cancellous Bone Preparation Trauma, Soft Tissue Debridement And General Irrigation. | |  |
|  |  | 2. Femoral Tip With Three Penetrating Streams For Aggressive Femoral Debridement. | |  |
|  |  | 3. Single Stream Tip For Wider Stream And General Irrigation. | |  |
| ORT 30 | Electric Cautry | 1 set includes :  Operated on 230V+/-15V, 50 Hz+/-3%  Should have 4 output features  Monopolar Cutting 1 and Monopolar Coagulation 1  Monopolar Cutting 2 and Monopolar Coagulation 2  Bipolar Cutting 1 and Bipolar Coagulation 1  Bipolar Cutting 2 and Bipolar Coagulation 2  Should have digital display and colour coding and acoustic signal and can be operable by both hand and foot switches.  It should have following Rated Frequency  MonopolarGeneratior:> 300 KHz  Bipolar Generator : Upto 1000 KHz  Bipolar Cutting should offer following Modes  Pure Blend Cut: Cut with low degree of eschar form  Blend Cut : Cut with considerbleeschar current  Forfex: Mechanical cutting with strong hemostasis  Bipolar Coagulation should offer following Modes  Macro Coagulation: Large forceps  Macro Stop Large forceps with auto stop  Auto macro: Large forceps with auto start and suto stop  Micro Coagulation: Small forceps  Micro Stop : small forceps with auto stop  Auto Micro: Small forceps with auto start and auto stop  SEAL SAFE: For vessel sealing  Endo Seal Safe: Endoscopic vessel sealing  It should have  LED Display for monopolar and bipolar cut and coagulation | | 4 |
|  |  | Acoustic signal for monopolar and bipolar cut and coagulation  Colour code for cut and coagulation  The Unit should be quoted along with the following Accessories  1)Monopolar set of Accessories (1 set)  Consisting of :  Hand control pencil 1 No  Double pedal Footswitch 1 No  Patient plate 1 No  Electrode set of 5 1 set  2) Bipolar Footswitches 1 No  3) Bipolar Forceps 1 No  4) Bipolar Cable 1 No | |  |
| ORT 31 | Suction Machine | 1 set includes :   1. Portable suction unit: Size 38 x 17 x 28.5 cm, Weight 5.1 kg 2. Suction Machine with pump:  * Power supply: 230-240V/50Hz * Vacuum capacity: 18litres/mim * Maximum depression: -75kPa (-563mmHg) * Vacuum is created by plastic piston & cylinder system, with 4 vacuum-creating modules. * The membrane vacuum regulator permits accurate vacuum settings. * Double overflow-protection system (bottle and pump). * Working temperature range: +5 to +40°C.  1. Safety Device:   The safety device protects the pump against overflow: suction is interrupted when foam or liquids reach the safety level in the small jar. All components are reusable and can be steam sterilized at 134°C.   1. Collector System: 2. Bottle or jar: 1litre, graduated PSU (polysulphone) 3. Lid: Includes 1 overflow device, a 6x10mm diameter conical connector and 2 clips 4. Connection tube: Silicone tubing, diameter 12x7mm, length 25cm, and 2 connectors: 1 straight and 1 curved 90° 5. Suction tube: Reusable silicone tube: diameter 7x12mm, length 200mm.   Single-use tube : diameter 7x12mm, length 180cm.   1. Filters: Bacterial filters, single-use. 2. Unit Presentation: Delivered with the following components:   - 1 suction machine and pump  - 2 one-litre bottles or jars, with lids  - 1 safety device  - 4 overflow spares  - 2 lid clip spares  - 2 suction tubes, non-sterile  - 2 suction tubes, sterile  - 1 spare fuse  - 1 user and maintenance manual, multilingual   1. Packaging: Box: 400x400x470mm 2. The following must appear on the pump packaging:  * Manufacturer’s name and address. * Item designation, serial number, CE mark and reference number of notifying body. * Outer packaging: Manufacturer’s name; product name and serial number. * Other: Complies with Medical Device Directive 93/42/EEC, class risk IIa or equivalent.  1. Manufacturer’s quality management system complies with ISO 13485. 2. Accessories - Spare parts 3. Suction bottle: 1L, psu, autoclavable 4. Liquid collector: volume content 1litre, graduation scale 100ml, material polysulphone, sterilisable at 134°C 5. LID w/ conn.6-10mm, + overflow device, Components: 1conical connector Ø 10-14mm, 1 overflow protection device, 2 blue plastic clip, for lid fixation. 6. CLIP for lid: clip, plastic, blue, for lid fixation 7. OVERFLOW protection device: Bottle /jar overflow protection device, white 8. SAFETY DEVICE, for pump: Components- 1Botte/ jar 250ml, polysulphone, 1 Lid with patient connector Ø 6-10mm, two clips and one overflow protection device, 2 Connecting tube, silicone size: external Ø 12mm, internal Ø 7mm, length 30cm + 2 connectors. All components are reusable and autoclavable at 134°c. 9. TUBE SUCT., d.12x7mm/2m, silicone :SuctionTubing (between operation field and suction machine) reusable, Size: external Ø 12mm, internal Ø 7mm, length 2m, Material silicone, Autoclavable at 134°C. 10. TUBE, SUCTION MACHINE, CH 25, 1.8m, sterile, s.u., SuctionTubing (between operation field and suction machine) single use, Size: external Ø 12mm, internal Ø 7mm, length 1.80m, with manual vacuum control connector. 11. FUSE T 800 mA, dia.5x20mm 12. Fuse T 0.8 A Ø 5.0 x 20 mm 13. BAG, transport: Made of strong resistant waterproof textile, Multi pocket bag allowing to store accessories 14. TROLLEY, w/2fix.rails: Material: stainless steel, 2 standard rails 10x25mm, 4swivelling antistatic castors, 2with breaks. 15. CLAMP HOLDER: Support fixation clamp, for rails 10x25mm 16. FILTER, antibacterial/overflow, s.u., Overflow protection /bacterial filter is compulsory for the suction model not equipped with reusable safety device. | | 8 |
| ORT 32 | OT table | 1 set includes : | | 4 |
|  |  | STANDARD ACCESSORIES | |  |
|  |  | 1. AnaestheticScreen. 2. Shoulder supports with pad 3. Arm Boards with pads 4. Lateral support with pad 5. Knee Crutches Goepel type 6. Water Proof rubber mattress 7. Orthopaedics fracture attachments for femur fractures | |  |
|  |  | TECHNICAL DATA OF ORTHOPEDIC OPERATING TABLE | |  |
|  |  | Length | 90 – 92” |  |
|  |  | Maximum length with leg extensions | 101" – 105” |  |
|  |  | Width of padded table top | 16.5" – 17.5” |  |
|  |  | Height adjustment | 38"-49" |  |
|  |  | Lateral tilt adjustment, either direction | 30° |  |
|  |  | Trendelenburg | 30° |  |
|  |  | Movement of revolving table top | 25° |  |
|  |  | Maximum adjustment of leg extensions | 8" (22 cm) |  |
|  |  | Weight | 572 lbs (260 kg) |  |
|  |  | Power Supply | 110 Volts, 60 Hz |  |
| ORT 33 | Spica Table | - with detachable varying size perineal post and other | | 3 |
| ORT 34 | OT Light   1. Shadowless Cold light LED lamp, ceiling mounted compatible with laminar air flow, double dome. | 1 set includes :  1. No of dome- Double Dome  a. Major Dome- 1,60,000 Lux at 1 m  b. Satellite Dome- 90,000 lux at 1 m  2 Single bulb Technology with switch over to reserve bulb automatically when main bulb fails (operating bulb should be in center).  3. Colour Temperature should be 4200 K  4. Colour Rendering Index should be min 93  5. Light field Diameter  a. Major Dome- 155 mm to 270mm  b. Satellite Dome- 130 mm to 205mm  6. Depth of Illumination (L1 + L2) should be minimum 1350mm  7.irradiance / illumination itensity should be min 3,5mW/m²lx.  8. working column with homogeneous light distribution should be min 700mm  9. Switch on intensity should be 71% of max intensity automatically  10. average life cycle of illuminant should be min 1000 hrs  11. Parabolic reflector with min 3000 facets  12. Light should have completely shadow less  13. Possibility to field upgrade to wall control panel in future  14. Integration of the surgical light to central OR control systems possible via RS232 port.    15. Designed according to relevant safety standards EN 60601-1, EN 60601-1-2, EN 60601-2-41  as well to European Medical Device Directive 93/42/EWG | | 5 |
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| ORT35 | 1. Portable O.T Light LED | 1 set includes   |  |  | | --- | --- | | Working voltage | 160 – 250 V AC | | Power consumption | | | 9 LED Module | 18 Watt | | 16 LED Module | 32 Watt | | Lux Level at 1 Mtr. | | | 9 LED Module | >50,000 | | 16 LED Module | >80,000 | | Color temperature | 4000 or 6000 deg K | | *Features* | *Specifications* | | Continuous Dimming | 10 – 100 % | | Battery Backup | >2 hrs |   Heat absorbing colour correcting filters, provided with plastic diffusers for shadow reduction. Spring balanced, provided with sterilizable handle and low voltage supply unit. | | 2 |
| ORT36 | Boyle’s apparatus | 1 set includes :   1. Boyle’s Apparatus should have rigid steel structure with four antistatic castors wheels having front with brakes. 2. It should have Appro. (10”) long rotating bobbin flow meters, (rotameters) with colour coded control knobs, calibrated in multiple scales for accurate reading. 3. It should have Oxygen (1st tube)-10 cc/mm to 3.5 liter/min. 4. It should have Oxygen (2nd tube)- 3.5 liter/min to 10 liter/min. 5. It should have Nitrous oxide (1st tube)- 200 cc/ min to 5 liter/min. 6. It should have Nitrous oxide (2nd tube)- 5 liter / min to 12 liter/min. 7. It should have Air-100 cc/min to 12 liter/min. 8. It should have It should be Gas specific, gas blocks pin indexed yokes, two each for oxygen & nitrous oxide & one for air suitable for pin- indexed cylinder. The equipment shall also have attachment for connection of compressed air. 9. It should be Fitted with pressure gauges 100 mm diameter mounted on O2 and N2O cylinder (2 each) for clear visibility. 10. It should have Vaporizer for ether, penlon type with graduated jar with mounted selectatec. There should be Temperature compensated vaporizer for halothane/isoflourine 11. It should be Fitted with regulators and non return cum pressure release valves for gases. 12. It should have Two Numbers oxygen pneumatic power outlets operating at 50 psi to operate ventilator. 13. It should have Extended rear platform for mounting two nos additional 10 litre water capacity cylinders. 14. It should have Patient circuit to include elephantine tubing reservoirs bag, connections for changeover from open to closed circuit and vice versa. 15. It should have Top tray for monitoring equipment 16. It should have Drawer for keeping instruments. 17. In other respects the equipment shall comply with IS-11378-1985. 18. It should have adjustable pressure limiting valve, breathing circuit pressure measuring device. 19. It should have a bag/ventilator selecting valve integrated onto the absorber. 20. It should be suitable to use low flow techniques - Facility to attach oxygen sensor. 21. It should have CO2 absorbent Dual chamber canister. 22. It should have Automatic cutoff of nitrous oxide in case of oxygen supply {nitro lock system}falls. 23. It should have Pneumatic device with audible alarm mechanical (not electrical) when oxygen supply falls to 10-15 psi. 24. It should have Hypoxic safety device to ensure that the patient is never subjected to pure N2O in flow out doses (shall ensure protection against singular flow of N2O) until a minimum flow of 1 liter-1.5 liter oxygen released. 25. Unit shall incorporate oxygen analyzer (oxygen concentration level indicator). 26. The Regulator and Yoke should force with S.S fittings. 27. The machine should have 3 inlets for O2 and N2O. 28. It should have 2 oxygen outlets 29. There should at least one operating pressure gauge for O2 and N2O separately. 30. The operating pressure should be 4.22 kgf/sq.cm +/-0.5% 31. There shall be provision of adequate supply of oxygen to the patient even if the flow meter knobs are fully turned off. 32. Unit shall conform to relevant safety standards and general safety standards as per IS-8607. | |  |
| ORT37 | Laminar Air Flow System | * + Average air flow velocity 90(#10) FPM (0.45 m/s) 6” Below the filter.   + Sound level not exceeding 65 dBA 30” (76.2o cm) with avg. air flow of 90 FPM.   + Vibration level not more than 0.09 MILS.   + 3 Stage filtration pre-filter true HEPA, activated carbon &Ioniser.   + HEPA with DOP testing in accordance with les-rp-cc-011-86 standards.   + HEPA filter of 6”/ 72 pleats with 99.9% efficiency in removal of particles 0.3 micron and larger. Leak proof.   + Filter media of micro glass fibre with poly string separators internally sealed.   + Face guard is epoxy coated.   + Direct driven fan motor with sealed double bearing.   + Dual speed with thermal overload protection.   + Capable of delivery 700 cfm(0.329 m3/s) of air filter pressure drop from 0.35 0.90” WG.   + Prolonged washable pre-filters arresting 90% of particles 5 micron.   + Centrifugal blower regulated by dampers/electronic speed control.   + Average work zone velocity 0.4/0.5m/sec.   + Active carbon filter.   + Double blower system.   + Special composite material housing to reduce noise, corrosion and vibration.   + Sealed gasket.   + Stainless steel diffuser plate.   + Differential pressure manometer.   + Provision to take in 5% of fresh air.   + O.T. is pressurized with clean fresh air thus outside air does not enter the OT.   + Return air is taken from the lowermost part of the OT thus providing complete coverage of OT, staff, trolley, table etc.   + It is independent of air cooling system which prevents moisture deposited on the H.E.P.A. filter (HE.P.A gets destroyed very fast because of moisture). | | 2 |
| ORT38 | O.T Fumigation Machine | 1 set includes :   * Body : Fully Stainless Steel * Maximum Height : 16 Inches * Outer Diameter : 17 Inches * Weight : 9 Kgs (Appr.) * Electric Supply : 230 50Hz * Single Phase A.C.Connected Load : 90 Watts * Power Consumption : 0.150Kws / Hr.Atomizing Cap. : 30 - 35 ml / min   Features:   * Light Weight And Portable * Easy To Operate Virtually No Maintenance Required. * Negligible Power Consumption. * 100% Convenient | | 2 |
| ORT39 | Floor Scrubber and cleaner | 1 set includes :  Squeegee Width  Scrubbing Width  Solution Tank Capacity  Recovery Tank Capacity  Power  Vacuum Capacity  Total Nominal Consumption  No. of Brushes  Cleaning Performance  Traction System  Weight  Dimensions (LxWxH) | |  |
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| ORT40 | C-Arm Image Intensifier 9” | 1 set includes :  C-ARM 9” with IITV System   * + 1. Mobile C arm image intensifier television systems for applications in orthopeadics and general surgery     2. State of the art system with high frequency X-ray generator, 9” image intensifier system and suitable CCD camera.     3. High frequency generator with atleast 2.4 KW output. Fluoroscopy kV atleast 110 kV and atleast 6 mA for better contrast. Possibility for doing fluoroscopy in high contrast mode (7 mA at lower kV).     4. Radiography from 40 kV to 100 kV and mAsupto 200 mAs. Radiography mA atleast 60 mA. Cassette exposure on 8x 10 cassette. Suitable cassette holder to be provided. It shall be possible to fix the cassette holder on the image intensifier.     5. Dual focus X-ray tube with small focal spot not larger than 0.6 mm.     6. Fluoroscopy release from footswitch. System shall operate in automatic dose rate mode. However it shall be possible to switch to manual adjustment of fluoroscopy parameters also.     7. Radiography exposure release from two step exposure switch with extendable cord.     8. Image intensifier system with atleast 9 inch input field and one zoom. The zoom shall be selectable from the control panel. The Image Intensifier shall be fitted with suitable grid on the input face.     9. CCD camera with live image rotation facility and possibility of last image hold and atleast 4 frame image storage.     10. Two medical grade monitors, atleast 17” screen diagonals, shall be provided on a separate monitor trolley. The monitor shall have provision to mount additional accessories like video recorder.     11. X-ray collimator with iris collimation with automatic switchover to full field for cassette exposures.     12. C arm movements – horizontal movement 200 mm, orbital movement atleast 115, angulation atleast 190, swivel range atleast 12.5 and motorised vertical movement of atleast 400 mm. Lateral movement if the entire machine should be possible using steering handle. System braking on rear wheels with foot-operated lock.     13. The system shall be powered from a normal 15A earthed mains socket.     14. The equipment should be approved by AERB for the quoted output parameters and the entire equipment should have CE or some other international certification.   Electro – Hydraulic Operating Table with Remote Control  Electro-Hydraulic Surgical Operating Table with Radio-Translucence Top suited for use with ‘C’ Arm Image Intensifier for all types of surgery. Built-in Sliding Table Top mechanism to facilitate the Image Intensifier greatly. Operating positions including Trendelenberg, Reverse Trendelenberg, Lateral Tilt, Height Adjustment, Back Section Adjustment, Table Top Sliding should be controlled by Portable Hand Control Switch with feather touch symbolic. Working with the help of electric circuit. Table should have built-in Battery Backup. Should be provided with Override Functions i.e. all the Operating Positions should be achieved manually with the help of Hydraulic Pump pedal mounted on the base (positions should be selected through Hand Set).  Motor with Built-in Hydraulic system and miniature solenoid valve. Head section & leg section should be manually operated by mean of ratchet system. Built-in Kidney-Bridge (manually gear operated).  TECHNICAL DATA :  The OT Table should Length : 1900 mm min. ± 10 mm  Width : 510 mm min. ± 10 mm  Trendelenberg& Reverse Trendelenberg : 25° each min.  Lateral Tilt : 20° both side min.  Minimum Height : 750 mm min.  Maximum Height : 970 mm min.  Leg Section Drop : 90° min.  Back Section Up : 80°  Back Section Down : 20° min.  Head Rest Up &Down : 40° Up / 80° Down min.  Longitudinal Slide : 300 mm min.  STANDARD ACCESSORIES :  L-shaped AnaestheticFrame : One Pc.  Shoulder Supports with Pad : One Pair  Armboard with S.S. Top : Two Pcs.  Lateral Supports with Pad : One Pair  Knee Crutches Goepel Type : One Pair  Wrist Strap : One Pair  Water Proof Rubber Mattress : One Set  ORTHOPAEDIC ACCESSORIES :   * Orthopaedic Leg Traction Attachment with screw controlled foot traction apparatus, Foot Plates, Perineal Post and Sacral Rest. Made of STAINLESS STEEL and mounted on wheels for easy manoeuvrability. * Hand Traction Device with screw controlled traction apparatus. Made of Stainless Steel. * Spinal Frame. * Poplital Support. * Radio Translucent Top Hand Operating Table with telescopic support. * Hip Nailing Support (Inner thigh rest with pad). * Tibia Support (L-shaped knee rest with pad). * Adjustable Arm Support with cushion for Lateral position. * Steinmein Pin. * SPINAL SURGERY : * Spinal Bridge   The Equipment should be ISO 13485 Certified  The Equipment should be CE Marked | | 2 |
| ORT41 | Sterilization Horizontal Autoclave Machine | 1 set includes :  Large , Medium   1. Double walled unit mounted horizontal on a sturdy. 2. Heavy mild steel tubular stand duly painted 3. Pressure is adjustable from 10- 20 psi 4. Fitted with pressure gauge, safety valve and steam release valve. 5. Available with a separate boiler 6. Separated valves for injection of the steam in to the main chamber and releasing the steam in atmosphere after use. 7. Hydraulically testing up to 40 psi. 8. Automatic vaccume breakeris provided to breake the vaccum in case of formation of vaccum due to steam condensation. 9. Both inner chamber and outer wall made up of stainless steel. 10. Fitted with digital temperature indicator to indicate inner temperature. 11. Automatic pressure controll switch. 12. Automatic low water level cut off device. 13. Lid is made up of stainless steel plate provided with radial locking system. | | 1 |
| ORT42 | CPM Machine | 1 set includes :  High Torque noiselss, instant start/stop andandreversible,flexion angle 0-120 machine speed approx1-5 min for 1 stroke. Adjustable thigh length and height treatment time variable from 5-3 mins | | 6 |
| ORT43 | Ultrasound Unit With Combination Therapy | 1 set includes :  Multi-frequency Ultrasound 1,2,3 MHz   * + Duty cycles 10%,20%50%, continuous   + Option to add any size sound heads: 2cm square, 5 cm square, 10 cm square   + Produce head warming and Coupling   + Deliver combination therapy with all the available currents through the Sound Head   + Stim input for electrotherapy   + 5 channels with 1 numbers of dedicated High Volt channels   + Deliver 7 wave forms: such as Interferential, Premodulated, Russian, Biphasic, High Volt, Micro current, Direct Current, Target and Target Sweep feature for Interferential with touch pad technology   + Internal power supply and conversion capabilities   + Durable and sturdy with aluminium casing   + Modifiable frequency ranges, single, reciprocal, co-contraction modes in Russian, Biphasic   + Able to have selectable and customizable on/off times for High Volt, Biphasic and Russian   + Able to modify pulse rate, pulse width in Biphasic, Russian   + Able to deliver Micro current and High Volt therapy delivered with either electrodes or probes   + Option to select Micro current and High Volt polarity ( positive, negative, or bipolar)   + Micro current conductance indicator and Electrode conductance meter   + Deliver Direct Current through Multi Stim probe with toggle switch for control   + An Infrared cluster probe with 660nm and 880 nm SLDS and have Laser point probe available as an unit for attachment.   + Provide a light 405 nm and 660 nm cluster probe.   + A certified class device with all CE mark and FDA approved Unit and IEC 60601-1 (CE) and CSA/NRTL | | 2 |
| ORT44 | Short Wave Diathermy Machine | Frequency-27.12 MHz; Main Supply-230 Volts AC/50Hz;  Output Power – 500 Watts | | 2 |
| ORT45 | Parrafin Wax Bath | 1 set includes :  230 Volts AC/50Hz; Temperature control- 0 to 100◦ C | |  |
| ORT46 | Colour Display Finger Tip Oxymeter | 1 set includes :  Should offer Finger tipoximeter color display, which is used to measure human hemoglobin saturation and heart beat through finger. Widely used in family, hospital (including clinical use in internist / surgery, anesthesia, paediatrics, intensive care and etc) oxygen bar, social medical organization, physical care in sports and others.   1. High quality 65k color OLED display 2. Automatic power-off without signal for 5 seconds 3. Superior accuracy and durability 4. Two "AAA" Alkali battery and OLED bar graph 5. Two display direction adjustable | | 4 |
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| ORT47 | ORTHOPAEDIC SPLINT AND TRACTION | 1 set includes : | | 2 |
|  | Thomas splint iron |   made polished rim cushioned (small, medium, large, extra large) | |  |
|  | Bohler Braun splint |   iron made polished with three pullerys in assembled condition | |  |
|  | Crammer wire splint |   (small, medium, large, extra large) | |  |
|  | Steinmann pin |   (4mm, 4.5mm) made of Stainless steel with trocar tip | |  |
|  | Denham pin |   (4.5mm) | |  |
|  | K- wires | (2mm, 2.5mm and 3mm) | |  |
|  | Bohler stirrup |  | |  |
|  | Skeletal traction kit | consisting of protector cap for pins, cords for typing spreader for cord and cord to hang weight) | |  |
|  | Wooden block | (4 x 4 x 4 inches) | |  |
|  | a) Bucks Adjustable pully | made up of chrom plated steel with variable angle for multiple pulleys to go no foot end bar of the bed) | |  |
|  | b ) Bucks Extension Apparatus |  | |  |
|  | Plastic pulley | with hooks | |  |
|  | ASHE Brace |  | |  |
|  | Cervical collar | Philadelphia type (small, medium, large) | |  |
|  | Clavicular Brace | (small, medium, large) | |  |
|  | Adhesive skin traction kit | with spreader and cord (Below knee kit for kids) | |  |
|  | Non Adhesive Skin Traction kit, | sponge padded, with spreader and cord and elastic bandage (below & knee and above knee) | |  |
|  | Iron weights | for traction and stand for hanging (2 pound each) | |  |
|  | Head halter | traction kit | |  |
|  | Crutchfield tongs | with guarded drill kit (4mm) | |  |
|  | Overhead beam | with all pulley attachments | |  |
|  | Basic instrument set for fracture fixation |  | |  |
|  | Light system | Operating Theatre Cold light | |  |
|  | Cordless drill system | with power saw and reamer attachment with charger | |  |
|  | Processing Unit and Image | Filling system compatiable with Video Arthroscopy System Karl Storz | |  |
|  | Volume Infusion Pump | As per standerd specification | |  |
| ORT48 | Plaster Room Equipments | 1 set includes : | | 4 |
|  |  | a. Plaster cutter (Electric)  De Soutters type | |  |
|  |  | 1. Swing the highest number: More than 12, 000 times per min. 2. Maximum swing range:More than 5 degree. 3. Input Current:220Vac,50Hz. 4. Machinable plaster and polymer materials. 5. Hex drive provides 6 blade rotations extending blade life by 50%   Overview:  Work will not cause any damage on the human body,is currently used in hospitals and polymer cutting plaster bandage ideal surgical tool.   * G.Weight of electric plaster saw:1.14KGS * Total G.Weight:3.54KGS * Dimension:360\*240\*120mm * Packaging:Aluminium Alloy * Light Weight And Portable * Easy To Operate * Virtually No Maintenance Required. * Negligible Power Consumption. * 100% Convenient  |  |  | | --- | --- | | TECHNICAL DATA | | | Body | Fully Stainless Steel | | Maximum Height | 16 Inches | | Outer Diameter | 17 Inches. | | Weight | 9 Kgs (Appr.) | | Electric Supply | 230 50Hz. Single Phase A.C. | | Connected Load | 90 Watts | | Power Consumption | 0.150Kws / Hr. | | Atomizing Cap. | 30 – 35 ml / min | | b. Plaster spreader | Heavy Duty | | c. Plaster cutting scissors | Heavy Duty | | d. Plaster Shear | Heavy Duty | | |  |
| ORT49 | Infusion pump large capacity | 1 set includes :   High volume infusion pumps with capacity of 20 ml./hour to 5000 ml/hour for IV fluids. | | 4 |
| ORT50 | Digital Camera | 1 set includes :   |  |  | | --- | --- | | PROPORTION | | | DIMENSION | 110.1 x 64.9 x 22.8 mm Excluding Projections | | WEIGHT (INCLUDING BATTERY AND SD CARD) | 178g | | LENS | | | FOCAL LENGTH | 28 to 140 mm | | DIGITAL ZOOM | Up to 4x | | EFFECTIVE PIXELS | 16.0 Million Pixels | | OPTICAL ZOOM | 5x | | LENS TYPE | NIKKOR ED Glass Lens | | APERTURE | | | APERTURE RANGE | F/3.9-4.8 | | LCD | | | LCD INFO DISPLAY | TFT LCD Monitor with Anti-Reflection Coating | | LCD SIZE | 3.0" | | LCD IMAGE RESOLUTION DISPLAY | 460,000-Dot | | LCD VIDEO RESOLUTION DISPLAY | 1920 x 1080 | | SENSOR | | | SENSOR SIZE | 1 / 2.3 inch | | SENSOR TYPE | CMOS | | BATTERY | | | BATTERY TYPE | Rechargeable Li-ion Battery EN-EL12 | | FORMAT | | | IMAGE FORMAT | Compressed [JPEG (EXIF)] | | VIDEO FORMAT | MOV Movie | | AUDIO FORMAT | Stereo/Wav File | | FLASH | | | FLASH RANGE | 0.3 to 3.5 m (W), 0.5 to 2.2 m (T) | | BUILT IN FLASH | Yes | | RED EYE REDUCTION | Yes | | FLASH MODE | Auto, Auto with Red-Eye Reduction, Off, Fill Flash, Slow Sync | | FOCUS | | | AUTO FOCUS | Contrast-Detect TTL AF | | MANUAL FOCUS | Yes | | FOCUS RANGE | Normal Mode: 50cm,Macro: 1cm | | EXPOSURE METERING SYSTEM | 256-Segment Matrix Metering, Center-Weighted Metering, Spot Metering, Face-Priority AE | | POWER SUPPLY | | | POWER SUPPLY | AC Adapter EH-62F | | BATTERY LIFE | Approx. 250 Shots with EN-EL12 (Based on CIPA Standard) | | INTERFACE | | | AUDIO VIDEO INTERFACE | Audio / Video (A/V) Output, Video Output (NTSC, PAL) | | USB | USB 2.0 | | MEMORY | | | CARD TYPE | SD Memory Cards (SDHC and SDXC Compliant;) | | IN-BUILT MEMORY | 83 MB | | FILE FORMAT | | | VIDEO SIZE | HD 1080p (1920 x 1080, 30 fps), HD 720p (1280 x 720, 30 fps), iFrame 540 (960 x 540, 30 fps), VGA (640 x 480, 30 fps) | | HD VIDEO | Yes | | IMAGE SIZE | 4608 x 3456 (16M\*), 4608 x 3456 (16M), 4000 x 3000 (12M), 3264 x 2448 (8M), 2592 x 1944 (5M), 2048 x 1536 (3M), 1024 x 768 (PC screen), 640 x 480 (VGA), 4608 x 2592 (16:9) | | SHOOTING MODES | | | MACRO MODE | Yes, 1 cm | | SCENE MODE(S) | Portrait, Landscape, Sports, Night portrait, Party/indoor, Beach, Snow, Sunset, Dusk/Dawn, Night Landscape, Close-up, Underwater, Food, Museum, Fireworks show, Black and white copy, Backlighting, Panorama assist, Pet portrait | | CAPTURE MODES | Single, Continuous H (approx. 7.1 fps up to 3 shots), Continuous L (approx. 1.4 fps up to 12 shots), BSS (Best Shot Selector), Multi-Shot 16 (16 frames with a Single Burst) | | SHOOTING MODE | Auto Mode, Scene Mode, Smart Portrait, Easy Auto Mode, Movie Mode | | OTHER FEATURES | | | SELF TIMER | 2 and 10 sec. Duration | | ISO RATING | Auto (Auto Gain from ISO 125 to 800), Fixed Range Auto (ISO 125 to 400), ISO 125, 200, 400, 800, 1600, 3200 | | WHITE BALANCING | Auto, Preset manual, Daylight, Incandescent, Fluorescent, Cloudy, Flash | | FACE DETECTION | Yes | | ASPECT RATIO | 16:9, 4:3 | | SUPPORTED LANGUAGES | Total of 29 languages: Czech, Danish, German, English, Spanish, Greek, French, Indonesian, Italian, Hungarian, Dutch, Norwegian, Polish, Brazilian Portuguese, Portuguese, Russian, Romanian, Finnish, Swedish, Vietnamese, Turkish, Ukrainian, Arabic, Simplified Chinese, Traditional Chinese, Japanese, Korean, Thai, Hindi | | CONTINUOUS SHOTS | Yes, 8.1 fps (Continuous H), 1.4 fps (Continuous L) | | VIBRATION REDUCTION | Combination Lens Shift &ElectronicVR | | MAXIMUM SHUTTER SPEED | 1/1500 sec | | MAXIMUM RESOLUTION | 4608 x 3456 | |  | | |  |  | | CONTENT OF BOX | | | PACKAGING | Camera Strap AN-CP23, Rechargeable Li-ion Battery EN-EL12, Battery Charger MH-65P, USB Cable | | | 2 |

PAEDIATRICS SURGERY

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S.N | | Name of Equipment | SPECIFICATION | TOTAL |
| PDS1 | | Medicine Trolley Cum crash cart | 1.Size: 850x520x10 10 mm   1. Material aluminum-alloy, ABS and stainless steel. 2. Including 5 layers of drawers, 2 small size(70mm in height), 2 medium size(140mm in height)and 1 large size (210 mm in height); 3. Drawers mainly consist of top panel board. frame and plastic medicine tray (adjustable);   Other components:2 litter buckers,1 syringe disposal, 1 adjustable board, 1 transparent file box, 1 oxygen cylinder holder, 1 power oulet, 1 instrument holder and 1 I.V. Pole; 8" display, 5 parameters withbuilt-in battery and recorder; | 4 |
| PDS 2 | | Syringe pump | * Large color screen * Every syring is available * Three models for Speed, Time, Body weight * Automatic Detection of Liquid volume * Voice/Light alarm * Injection rate range（ml/h）0.1ml/h—1200ml/h\ * Bolus rate * 1200ml/h(50ml syringe) * 600 ml/h(30ml syringe) * 400ml/h(20ml syringe) * Display volume(Σml) * 0-999.9ml (0.1ml each level) * Total volume(Σml) * 0-999.9ml(0.1ml each level) * KVO(Keep-Vein-Open Rate) * (0.5±0.2)ml/h * Precision error range * ±2%(Injection Rate>10ml/h); * ±3%(Injection Rate≤10ml/h) * Size/ Weight * 290mm×130mm×130mm/2.1kg * Rated output capacity * ≤20VA * Occlusion Pressure (KPa) * High level: 100KPa; * Medium level: 60KPa; * Low level: 40KPa * Alarms * Near Empty alarm; * Infusion complete alarm * Occlusion alarm * Low Battery alarm * Mains Power off alarm * Power   AC 100V~240V, 50Hz/60HZ; DC12V, Rechargeable batteries can work more than 2 hours after 15 hours fully charged. (Operate at 5ml/h) | 18 |
| PDS 3 | | Infant Warmer  For precise environmental control effective isolation, adequate, oxygenation of surgical neonate and for continuous monitoring of respiratory assessment of new born | It should have:  1 Manual mode  2 Skin servo mode  3 Bright and soft light  4 Central Alarm  5 ThermoMonitoring  6 Text messages  7 Bed tilt  8 inner side walls (7 cm)  9 Heated gel mattress  10 X-ray tray  OPTIONS  Integrated pototherapy  Height adjustment  RS232 interface  Storage Drawers  Stand alone Phototherapy | 16 |
| PDS 4 | | Cardiac Monitor  For continuos monitoring of pre and post operative surgical neonate | Standard configuration: ECG, HR, PR, SpO2, OxyCRG diagram, ST analysis, Arrhythmia analysis, RESP\*2 (RA-LL  impedance and nasal cavity), NIBP (with venous punch), TEMP\*2(surface and rectal type), Drug dose calculation and  lead-acid battery, remote control.  configuration:  Wireless networking function to patient monitor;  Inside placed thermal-sensitive built-in printer;  IBP function (Include 1 pressure sensor and 1 adaptable cable);  ETCO2 function module（Respironics-main stream/side stream)-plug&play;  Cardiac Output  Wall Mount for patient monitor ;  Trolly for patient monitor;  12 volts Power supply for ambulance  Physical Character  1. Displayer ：15" color TFT LCD screen with multi-channel waveform display.  2. Battery: Rechargeable high-energy built-in battery  3. Advanced streamline outline design, portable, compact, lightweight  4. Operating menu with multi-language interface selection: English, Spanish, Portuguese, Chinese, Arabic,  Russian, Italian, etc.  5. Easy operation with user friendly menu structure design and rotary dial  6. Remote control ability for long distance operation.  7. Against & eliminate ESU interference & defibrillation, no need to disconnect the monitor from the patient in  process of defibrillating.  8. Three-application mode: monitoring, diagnosis, operating.  9. WAN communication function to network with central monitoring system and make long-distance  monitoring, diagnosis, maintenance and software upgrade possible  10. built-in wireless networking function  11. 360 hours data storage.  12. With Drug dose calculation function  13. Intelligent audio and visual comprehensive alarm  14. In-hospital applications include emergency room’s pre and post operative care, ICU, Operation  room/theater, ambulatory surgery, intermediate care/step down units, labor and delivery, and hospital-based  special procedure areas.  15. Suitable for use in physicians’ offices, clinics, outpatient surgical centers, extended care facilities and other patient care areas, which of require affordable monitoring  16. Suitable for adult, pediatrics, neonates  Technical Parameter  ECG  Input: 5 wires ECG cable  Lead section: , Ⅰ Ⅱ Ⅲ, / aVR, aVL, aVF/ V  Gain（mm/mV）: 1/4,1/2,1,2,4  Sweep speed(mm/sec): 6.25,12.5, 25, 50  Heart rate range: 15-300 BPM  Heart rate accuracy: ± 1 %  ST segment deviation analysis  NIBP (Non-invasive blood pressure) ()  Measurement type : adult, pediatric, neonatal  Measurement range: Systolic 4.0 - 37.0 kPa  Diastolic 1.3 - 33.0 kPa  Mean 2.6 - 35.0 kPa  Accuracy : ± 0.4 kPa or 5 %  Resolution: 0.1 kPa  Protection: over pressure  Tourniquet function  Temperature (surface and rectal)  Measurement range: 25.0 – 45.0 ℃  Accuracy: ± 0.1 ℃  Resolution: 0.1 ℃  response time: ≤ 3 min.  Respiration Rate(RA-LL,RA-LA,LL-LA selectable  impedance and nasal cavity)  Measurement range: 0 - 120 BPM  Accuracy: ± 1 BPM or 5 %  Resolution: 1 BPM  Power requirements  Input: 100～240 V AC, 50/60Hz  Consumption: ≤ 80VA  Environment  Operation Storage  Temperature 0.5 - 40 ℃ -20 - 50 ℃  Relative humidity ≤ 80%  Safety standard: IEC 60601-1  Quality System: ISO13485: 2003  Pulse Rate  SPO2 measurement range: 0 - 100 %  Resolution: 1 %  Pulse measurement range: 30- 250BPM  Accuracy: ± 2 %  Resolution: 1 BPM  IBP(Invasive blood pressure) (Option)  Measurement range: -1.3~40kPa (-10~300mmHg)  Channel: 4 channel  Transducer sensitivity: 5MV/V/mmHg  Unit display: KPa or mmHg selectable  ETCO2 (main/side stream type) (Option) – Plug&Play  Measurement range:0 – 150 mmHg 0 – 19.7% 0 – 20kpa  (Barometric pressure supplied by Host)  Accuracy: 0- 40 mmHg ± 2mmHg  41-70 mmHg ±5% of reading  71-100mmHg±8% of reading  101-150mmHg±10% of reading  Above 80 breath per minute±12% of reading  \*NOTE: Gas temperature at 25 ℃  Sample rate:50ml/min  Response time:< 3 seconds – includes transport time and  rise time  Cardiac Output （Option）  Meathod: thermodilution  Measurement range: CO:0.1-20.0 L/min  TB:23 – 43 ℃  TI:0 – 27 ℃  Resolution: CO:0.1 L/min  TI:0.1 ℃  TB:0.1 ℃  Accuracy: CO: ± 0.2 L/min or ±5%  TB: ± 0.2 ℃  TI: ± 0.2 ℃  Parameter output:  Cardiac output Hemodynamics calculation  Accessories for Standard configuration:  1 remote control  1 set of ECG cable  10 pcs of ECG electrode  1 set of NIBP extend cable  1 set of NIBP adult or pediatric or neonate cuff  1 set of RESP nasal cavity pipe  1 set of TEMP surface probe  1 set of TEMP cavity probe  1 set of integrated adult or pediatric or neonate SpO2 sensor  1 set of power supply cable | 20 |
| PDS 5 | | Treonic Infusion Pump  Small amounts of L.V. fluids effectively controlled and monitored by this Pump | * Fully programmable; automation capable * Operates stand-alone or from a [computer](http://www.syringepump.com/software.php) * Infusion and withdrawal * Set a single pumping rate and/or dispensing volume * Program up to 41 pumping phases that change pumping rates, set dispensing volumes, insert pauses, control and respond to external signals, sound the buzzer * Network, control, and monitor up to 100 pumps with one [computer](http://www.syringepump.com/software.php) * Motor stall detection * Dispensing accuracy of +/-1% * Unlimited lifetime technical support | 20 |
| PDS 6 | | Paediatric Cystourethroscope (8.10.11 Fr.) | 7.5 Fr. Sheath and Obturator Set, Diagnostic Only  4.5/6.5 Fr., Oblique Eyepiece, 5° Viewing Angle,  3 Fr. Insert Capacity, Fiber Optic  6/7.5 Fr. Ultrathin, 0° Viewing Angle, 4 Fr. Insert Capacity, Fiber Optic,  Needle Electrode, 2.4 Fr.  8.5 Fr. Sheath and Obturator Set, 3 Fr. Insert Capacity  9.5 Fr. Sheath and Obturator Set, 4 Fr. Insert Capacity  0° Viewing Angle, 1.9 mm Panoview Endoscope  30° Viewing Angle, 1.9 mm Panoview Endoscope  Flexible Biopsy Forceps, 3 Fr., 230 mm Working Length  Flexible Foreign Body Forceps, 3 Fr., 230 mm Working Length 9 Fr. Sheath and Obturator Set, 3 Fr. Insert Capacity  Single Channel Bridge, 3 Fr. Insert Capacity  Working Element  0° Viewing Angle, 1.9 mm Panoview Endoscope  Cutting Electrode, 9 Fr., 5/Pack,  Coagulating Electrode, 9 Fr., 5/Pack,  Hook Electrode, 9 Fr., 5/Pack, Sterile,  Coagulating Electrode, Curved, 9 Fr., | 3 |
| PDS 7 | | Paediatric Sigmoidoscope & colonoscope | |  |  |  | | --- | --- | --- | | Angulation | Angulation Range Up | 180 | | Angulation Range Down | 180 | | Angulation Range Right | 160 | | Angulation Range Left | 160 | | Insertion Tube | Insertion Tube Diameter | 13.3 mm | | Instrument Channel Diameter | 3.7 mm | | Working Length | 73 cm | | Total Lengh | 103cm | | Optical System | Field of View | 140 | | Direction of View | Forward | | Depth of Field | 5-100 mm | | 3 |
| PDS8 | | Paediatric Bronchoscope | Working Length: 54 cm  Outer Diameter: 3.6 mm  Working Channel: 1.5 mm  Deflection UP: 180°  Deflection Down: 100°  Angle of View: 90°  Direction of View: 0° | 3 |
| PDS9 | | Paediatric laparoscope | |  |
|  | |  | C02 Insuffiator Model Proflow 20   * Insuffiator with Bacterial Filter * Fully Automatic, Electronic, digital, C02 Insuffiator * Maximum Flow rate 20 liter / min * Simultaneous adjustable & Digital Displays * Preset pressure, actual pressure, preset flow rate, actual flow rate, and volume of C02 gas consumed. * Built in release valve to vent relieve the over pressure in the pneumoperitoneum. * Total volume of C02, & Monitor for intraabdominal pressure * Audio & visual C02 Cylinder gas status & overpressure alarm. * Warmer facility * Accessories -Silicon tube, power supply cord, etc | 3 |
| * CO2 Cylinders, two of different size, compatible with C02 Insuffiator | 6 |
| Telescopes  * Telescope –7 mm, 0°   Wide angled, Autoclavable, Three type of adaptors for fibre  Optic cable | 3 |
| Telescopes  * Telescope –5 mm, 30°   Wide angled, Autoclavable, Three type of adaptors for fibre Optic cable  Telescope 1 No.  Straight forward telescope 0o  enlarged view 10mm diameter, length 31cm. autoclavable | 3 |
| Telescope  Straight forward telescope 0o diameter 5mm, length 29cm. autoclavable. enlarged view | 3 |
| Telescope  Forward - Oblique Telescope 30o  , diameter 10mm, length 31Cm. autoclavable enlarged view | 3 |
| Telescope  Forward - Oblique Telescope 0o  , diameter 10mm, length 31cm. autoclavable enlarged view | 3 |
|  | | | |  |
| PDS10 | **Hand Instruments Set:** | | Veress Needle -2mm, 120mm, spring loaded small | 3 |
| Sheath / Cannula - Size -7mm, flap valve with Manual Activation, Autoclavable, Reusable. | 6 |
| Sheath / Cannula- Size –5mm, flap valve with Manual Activation, Autoclavable, Reusable. | 7 |
| Sheath / Cannula - Size -3mm, flap valve with Manual Activation, Autoclavable, Reusable. | 12 |
| Trocar & Cannulla with multifunctional valve 11mm | 6 |
| Trocar & Cannulla with multifunctional valve 6mm | 6 |
| Trocar with pyramidal tip - Size 7mm, sharp type, reusable. | 6 |
| Trocar with pyramidal tip- Size 5mm, sharp type, reusable. | 6 |
| Trocar with pyramidal tip -Size -3mm, sharp type, reusable. | 6 |
| Reducer sleeve with silicon latch, conversion of 5 to 3 mm | 6 |
| Reducer sleeve with silicon latch, conversion of 7 to 5mm | 4 |
| Reducer sleeve with silicon latch, conversion of 10 to 5mm | 6 |
| Universal Grasping forceps - Size -3mm  Insulated, Autoclavable, Rotatable, Dismentable in two parts,  Double action jaws, with HF connection, extra insert | 5 |
| Atraumatic Grasping force - Size -3mm  Pointed, cross-toothed, Insulated, Dismentalable in two parts,  Autoclavable, Double action jaws with HF connection, extra Insert | 5 |
| Right angled mixter forceps - Size -3mm, Insulated, Dismentalable in two parts, Autoclavable, Double action jaws with HF connection, extra insert | 3 |
| Allis forceps - Size -3mm  Dismentalable in two parts, Autoclavable, Double action jaws  With HF connection, extra insert | 3 |
| Babcock forceps - Size -3mm  Dismentalable in two parts, Autoclavable, Double action jaws  With HF connection, extra insert | 5 |
| Dissecting & Grasping forceps ''Dolphin"- Size -3mm Insulated, Dismentalable in two parts, Autoclavable, Double action jaws with HF connection, extra insert | 5 |
| Dissecting Forceps - Size -3mm, Curved Maryland, Insulated, Autoclavable, Rotatable, Dismentable in two parts, Double action jaws with HF, Connection, extra insert | 5 |
| Metzenbaum curved scissor- Size -3mm  Insulated, Rotatable, Dismentalable in two parts,  Autoclavable, Double action jaws with HF connection. | 5 |
| Micro scissor-straight – Size 3 mm  Rotatable, Dismentalable in two parts, Autoclavable,  Single action jaws with HF connection | 5 |
| Scissor - Hook tip - Size -3mm  Rotatable, Dismentalable in two parts, Autoclavable,  Single action jaws with HF connection | 3 |
| Claw Forceps – Size 3 mm, 2 X 1 teeth, single action jaws, Rotatable, Dismentalable in two parts, Autoclavable. extra insert | 3 |
| Biopsy Forceps – Size 3 mm, Spoon shaped, Plain  Single action jaws, Rotatable, Dismentalable in two parts, Autoclavable. | 3 |
| Biopsy Forceps – Size 5 mm, Spoon shaped, Plain  Single action jaws, Rotatable, Dismentalable in two parts, Autoclavable. | 3 |
| Fan Retractor – Size 5 mm  Double action jaws, Rotatable, Dismentalable, Autoclavable. | 3 |
| Cuschieri liver Retractor – Size 5 mm  Double action jaws, Rotatable, Dismentalable, Autoclavable. | 3 |
| Clip Applicator – Size - 5mm, LT-200  Rotatable with flushing channel for cleaning, for small clips Reusable, | 3 |
| Clip Applicator – Size - 5mm, Medium, LT-300  Rotatable with flushing channel for cleaning, for medium  Clips, Reusable, | 3 |
| Unipolar connection cable (Monopolar HF cord) | 6 |
| Suction - Irrigation Cannula - Size -3mm,  With thumb controlled, rotating adaptor, tubes | 3 |
| Suction - Irrigation Apparatus | 3 |
| Hook electrode- 3mm, 'L' shape | 3 |
| Spatula electrode - Size -3mm | 3 |
| Endoscopic bipolar diathermy probes | 3 |
| Endoscopic Monopolar diathermy hook | 3 |
| Bipolar Forceps - Size -3mm, Alligator tip, with cord | 3 |
| Bipolar Forceps - Size -3mm, Flat tip, with cord | 3 |
| Knife – one set | 3 |
| Intestinal clamp, compatible with Paediatric set | 5 |
| Endoscopic Stapler, Linear cutting, reusable, compatible with Paediatric set | 3 |
| Needle Holder – Size 5 mm, Straight jaw | 5 |
| Needle Holder – Size 5 mm, Curved jaw | 5 |
| Aspiration Needle – size 3 mm | 3 |
| Endo loop introducer – 5 mm | 3 |
| Roeder’s knot pusher, size 3 mm | 3 |
| PDS11 | THREE CHIP CAMERA HD CAMERA WITH MONITOR | | THREE CHIP CAMERA HD CAMERA WITH MONITOR  FEATURES REQUIRED  The High Definition Camera System should have the Maximum resolution and should guarantee a consistent use of the 16:9 aspect ratio technology for input and output assuring full High Definition.  • The CCD Chip should have a 16:9 aspect ratio input format to capture images with the resolution of 1936 x 1080 pixels (more than two million pixels) to enable viewing of enlarged field of vision.  • The Monitor should be of wide screen with 16:9 / 16:10 format.  • Camera system should use 1080P HDTV Progressive Scan System.  • The system should have USB port t o capture still images in Full HD resolution as well as Video Sequences in SD to a USB mass storage device  • The system should have USB system for printing images.  Technical Specification of the Camera CCU :  • It should be a simple unit with only the on and off switch on the front panel to avoid any  confusing settings.  • The system should have a Communication Port to communicate with similar brand units like Insufflators etc. to display the Insufflator etc. settings and status on the Monitor.  • It should have Signal-to-noise-ratio - M 60dB  • Should have AGC Microprocessor controlled E Tender No. 57/DHS/ Instruments & Equipments/./12-13 33  • Should have Video Output :  - Composite signal to BNC socket  - S-Video signal to 4-pin Mini DIN socket (2x)  - RGB signal to D-Sub socket  -HDTV signal to DVI -D socket (2x)  -USB Ports (2x)  • Should have a Keyboard Input for title generator  • Should have Control Output / Input:  - SCB at 6-pin Mini Din socket (2x)  - 3.5mm Stereo jack plug (ACC1, ACC2) (to control accessory like printers, computer recording systems etc.)  - Serial port at RJ-11  • It should have Power Supply : 100-240 VAC  TECHNICAL SPECIFICATIONS OF CAMERA  HEAD  • The 3-Chip HD Camera Head should have  • Max. resolution 1936 x 1080 pixel  Progressive Scan, 50Hz,  • 2 freely programable Camera Head buttons.  • The camera buttons should be programmable  with the following programs :  o Video Capture  o Still Capture  o White balance  o Color Bars  o Brightness  o Enhancements  o Patient Information  o Light Source Control  Insufflators Control  • Should have two adjustable rings on the  Camera Head for Focus and Optical Zoom.  • The Zoom should be a Integrated ParfocalZoom mechanically adjustable focal length f=14-36mm (2x). Adjustable using a ring on the Camera Head.  • Should have Image Sensor : Three -Chip Camera Head 3 x 1/3 CCD Chip  • Should have Pixels : 1936 (H) x 1080 (V) pixels per chip  • Unit should have Dimensions W x H x D:31 x 114 48mm  • Should have lens: Integrated optical Zoom Lens, f=14-36 mm for higher resolution while zooming.  TECHNICAL SPECIFICATIONS OF HD  MONITOR  • Monitor should be 26" HD Flat Screen, aspect ratio 16:10 Desktop, should have Color System PAL/ NTSC. E Tender No. 57/DHS/ Instruments & Equipments/./12-13 34 Monitor should have Resolution max. 1936 x 1360 with the following inputs.  • SDI, Composite, S-Video RGB, DVI and VGA  • Input Brightness should be 500cd/ m2 with the Contrast : 700:1  • Power Supply : 100-240 VAC, 50/60 Hz.  • The Monitor should be supplied with the Table top stand.  • Drip water protected, dustproof housing  • Liquid Crystal display / LED  • Max. resolution of 1936 x 1360 pixels  • Compact and lightweight design  • Composite, S-Video, RGB, VGA, SDI, HDSDI and DVI compatible  • External 24 VDC mains power supply  • Antireflexion coated front glass  • Easy-to-access control buttons on the housing front.  Should be certified to : EN 60601-1 | 3 |
|  |  | | 3 |
| PDS12 | XENON LIGHT SOURCE AND LIGHT CABLE | | XENON LIGHT SOURCE AND LIGHT CABLE  Should be High intensity Xenon light source  • Should have 300watt Xenon Lamp.  • Should have colour temperature - more than 6000 K  • Monitoring of lamp function.  • Should have built in Antifog Pump.  • Light intensity adjustment continuously adjustable from 0 to 100% manually  • 2 nos of Extra bulbs should be supplied.  • The unit should be supplied with an additional 250 Watts halogen light source having 2 inbuilt Halogen Bulbs and single outlet.  Light Cable :  Fiber optic Light cable should size 4.8 mm in diameter and length 250 cm the same should also be heat-resistant.  Trolley Indian make - 1No.  All Telescopes, Endoscopy Instrument, Endoscopy Equipment should be CE approved or FDA USA approved and of Single Parent  Company and all the electronic units should be additionally Certified to : EN 60601-1  Camera and Monitor should be of the same parent company as of telescopes and endoscopy equipments. | 3 |
| PDS13 | Electro Surgical Cautery | | Electrical unit for monopolar and bipolar cutting and coagulation with au torriatf c power control, voltage and are controlled generator for cutting three diffferent coagulation modes, safety channel, Limitation of max-power in cutting and coagulation mode.  Cutting :-   * Monoplor autocut vvit h automatic voltage control * Monopolaro auto cut with are control, especially for cutting proceedures under water like TUR, Hyteroscopy etc. * 4 coagulation effects for constant cutting quality * PPS power peak system for support for initial incision and cutting * Nominal frequency of HF Vottage 350k Hz * Nominal HF 300 watts at 500 enms   Bipolar Auto   * Nimnal H-output 120 watts at 500 ohms * Forced coagulator max 125 ohms * Start of coagulation by footwitch or Autostart with two different values of starts dealy. * End of Coagulation by footswitch or Autosptop.   Bipolar Coagulation   * Max. 120 wattsat 125 ohms. * Nominal frequency of 350 KHz * Start of coagulation by foot witch or Autostart with two different values of start dealy * End of coagulation by foot witch or Autostop.   Safety Channel   * Self check for all safety - related subssemblies including accessories * NF leakage current control * HF leakage current control * HF leakage current control * Output error control * Activation time control * Patient plate mirror controls the application of the plate to the patient, the correct orientation of the plate * Error display controls technical defects and operating error and records the most recent 10 messages. | 3 |
| PDS14 | Paediatric Operation Table Electronic Controlled | | C-arm compatible insulated operation table made with whole table top made up of radiolucent material and automated table top movement,is able to bear a max of 200 kg patient weight with hydraulic driven feet.besides the usual automated movements,back plate movements and longitudinal shift are also automated and desired position is achieved by simply one touch | 3 |
| PDS15 | LED Light (Light Source) | | * Description: Dual Dome LED Surgical Lighting System with one dedicated Spring-Arm Suspension for Progressive Scan HD Flat Panel with an Integrated In-Light Camera System. * A. OT Light * Operating Room Surgical Lighting System should provide an ideal combination of brightness, maneuverability, and shadow resolution without sacrificing color accuracy through a consistent LED technology with a unique faceted reflector design technology. * Such Lighting System should have the following technical specifications: * Number of Light heads : : Two per suspension * Number of LEDs : minimum 90 LEDs * Color Temperature : 4000 - 5000 K * Field Size Diameter Depth : 6 inch – 12 inch * Depth of Field : 30 – 35 inch * Illumination Level : minimum 160,000 Lux each * Controls : Wall Control, Touch – Panel * Rotation : 360 degrees * Vertical Adjustment Range : + 20 inch – 25 inch * Sterilizable Handle : Yes * Lighthead Diameter : 20 – 30 inch * Mounting Type : Ceiling * Supply Voltage : 100 – 230 VAC 50/60Hz * Bulb Type : LED * Dimming Range : 30% - 100% * Operating/Storage Humidity : 10 – 95% * Life of Light Source : >30,000 Hrs. | 3 |
| PDS16 | Harmonic knife | | 1. Ultrasonic generator with fixed frequency of 55.5 KHz with transducer and footswitch capable of incising tissue and providing hemostasis with minimal thermal injury.  2. It should have 5mm instruments/probes/shears.  3. It should have capacity of 5mm vessel sealing with lap and open shears.  4. It should have 3 different audible tone settings possible.  5. The probe of the Coagulating shear should be 360° rotatable and capable of working in three modes-Flat, Blunt and Sharp mode.  6. It should have option of hand activation with bilateral MIN and MAX switches  7. It should have a provision for connecting 2 footswitches for two surgeons to work simultaneously.  8. It should have self-diagnostic mode to detect any problem with generator, footswitch, transducer or instruments.  9. It should have an audible indicator for active shear/probe/instrument  10. It should have a warning system for a worn out probe/shear/instrument with error codes.  11. It should have a maximum of 5 power level settings with power level display of both MIN & MAX  12. Frequency of vibration should be same for both open and lap probes/shears/instruments  13. It has a vibration range of 50-110 microns(micro meters,m)  14. The system can be put in standby mode for better safety.  15. It should not be combined with an Electrosurgical unit  16. It should be functional for both Laparoscopic and Open surgeries.  17. It should have an option of using 5mm hand activated Laparoscopic Shears.  Accessories (a) Wrench (b) Test Tip (c) Transducer for shears (d) Transducer for fine dissecting probe  Open surgical instruments: (a) Coagulating Shears-Open (b) Coagulating Shears-Open Curved Mode (c) Fine dissection probe for Thyroid and auxiliary dissection.  -2-  Laparoscopic Instruments(a) 5mm coagulating shears – lap 36cm and 45 cm. | 3 |
| PDS17 | PCNL set | | 1 Straight Forward Telescope 60up to 12 Fr, with angled eyepiece, autoclavable, with instrument  channel 5 Fr., - 1no.  2 Telescoping Dilation Set, consiting of : set of 3 dilators, 9, 12 and 15 Fr., with 2 rigid and 2 flexible  guide rods - 1 no. or one step dilator 12 Fr and 15 Fr 3 Operating Sheath, 17 Fr. Or 18 Fr., including  connecting tubes for in- and outflow and Luer lock adaptors - 1 no.  4 Hollow Obturator and Fascial Dilator - 1 no.  5 Grasping Forceps for stone fragments, double action  jaws, 5 Fr., length 30 cm or up to 36 cm.  6 Grasping Forceps for larger stones and fragments,  double action jaws, 5 Fr., length 30 cm or up to 36cm.  7 Biopsy Forceps, double action jaws, 5 Fr., length 30 cm  8 Should consist of 250 watts halogen light source, with inbuilt automatic changeover to reserve bulb in  the event of the failure of the first bulb. The unit should have international certification like IEC 60601, CE  9 Fiber optic Light cable should be 3.5 mm 180 cm  10 All items to be CE certified and from the same manufacturer  All Products quoted should be CE approved  or FDA USA approved and of Single Parent Company. | 3 |
| PDS18 | Pediatric Ureteroscope | | Needle Ureteroscope  Description  4.5/6 Fr. Needle Scope, 45° Offset Eyepiece,  5° Viewing Angle, 3 Fr. Insert Capacity,  315 mm Working Length  4.5/6 Fr. Needle Scope, 45° Offset Eyepiece,  5° Viewing Angle, 3 Fr. Insert Capacity,  430 mm Working Length  4.5/6 Fr. Needle Scope, Straight Eyepiece,  5° Viewing Angle, 3 Fr. Insert Capacity,  315 mm Working Length  4.5/6 Fr. Needle Scope, Straight Eyepiece,  5° Viewing Angle, 3 Fr. Insert Capacity,  430 mm Working Length  Ultrathin Ureteroscope: Description  6/7.5 Fr., 5°, 330 mm Working Length  6/7.5 Fr., 5°, 430 mm Working Length  D.O.C. Dual-Channel Ureteroscope  Description  6.5/8.5 Fr., Dual Channel, 5°, 330 mm Working Length  6.5/8.5 Fr., Dual Channel, 5°, 430 mm Working Length  Accessories for D.O.C., Ultrathin, and Needle  Description  Flexible Biopsy Forceps, 4 Fr., 600 mm  Flexible Alligator Forceps, 4 Fr., 600 mm  Flexible Mouse Tooth Forceps, 4 Fr., 600 mm  Flexible Button Electrode, 3 Fr., 570 mm  Flexible Alligator Forceps, 3 Fr., 530 mm  Flexible Biopsy Forceps, 3 Fr., 530 mm  Flexible HF Button Electrode, 3 Fr., 920 mm | 2 |
| PDS19 | Operating Room High Definition Video System for laparoscopy and endourology  OR HD Video System | | Description  Glider Video Cart  Side Arm for Glider Cart  Camera Kit, HD, 1080p, Includes Camera Head, Controller, and Cables  26” LED Backlit Monitor  HD Digital Recorder HVO-1000MD w/  Blu-Ray™ Burner  15” Touch Screen for HD Recorder  HD Printer UP-DR80 for HD Recorder  300 W Xenon  Light Source  Fiber Light Cable,  2.5 mm, 3 M Long | 3 |
| PDS20 | Neonate Transfer Incubator | | Physical Attributes (without options/accessories) with 147 stand Height 32 in (81.3 cm) max- 44in (111.8 cm) Width 22.3 in (56.5 cm) Length 40.3 in (102 cm) Weight159 lbs (72 kg) Distance from vertical hood to mattress High Hood 9.84 in (25 cm) Standard Features Double wall Skin temperature probe O2 inlet Examination lamp 2 access doors 2 disposable infant restraint straps 1 Iris port 2 Quiet Touch™ port doors 6 tubing ports Locking power control receptacles DC cable 2D or 2E size tank mounts The tank mount permits mounting gas cylinders with a diameter of up to 4.5 in (11.6 cm) and up to 34 in (85 cm) in length Humidity Pad(2)General Specifications O2 concentration range 21% to 58% minimum Humidity capacity 50% to 70% Noise level <60 dBA(3) Performance Characteristics Temperature set range 22.0° C - 38° C (71° F - 100° F) Temperature rise time 30 minutes Temperature variability ≤1.0° C Temperature overshoot ≤2.0° C Temperature uniformity ≤1.0° C Correlation of display temperature to set point at temperature equilibrium ≤ 2.0° C in l0-20° C ambients ≤1.5° C in 20-30° C ambients Humidity pad Holds 400 ml.(14 oz) sterile distilled water with no significant spillage for up to 45° tilt in either direction. Air filter Removes >99% of airborne particles greater than 0.5 micron diameter Relative humidity 50 to 70% for 10-12 hours using humidity pad Check calibration key 36.0° ± 0.l° C Controller Displays On/standby Illuminates when “On” Battery condition status 4 LED indication of battery charge condition 25-100% Power mode Illuminates AC, DC, or external DC Heater power 4 LED indication of heater power; 25-100% Baby temperature ° C Displays infant temperature Air temperature ° C Displays incubator air temperature Set temperature Illuminates when changing set temperature Alarm indicators High temp, Power fail, Sensor fault, Heater temp, Air flow, Low DC Battery Specifications(4) Incubator 1 battery standard Type Vented rechargeable, 12 Vdc, 24 AH gel-type battery (lead acid) Battery rating Incubator maintains a differential of 25° C (77°F) between ambient and set point for 90 minutes on 1 battery or 180 min. on 2 batteries at full heater power Life expectancy 200 complete charge/discharge cycles minimum Charge time 10 hours per battery from full discharge TECHNICAL SPECIFICATIONS DRÄGER ISOLETTE® TI500 INCUBATOR Safety Alarms High temperature. Actuates if incubator air temp. >39 ± 0.5° C Sensor (temperature) Actuates if sensor fails Heater temperature Actuates if heater temp >77° C (l70° F) Power fail Actuates if AC fails and no DC power present, and activates if unit switches from AC to DC current Air flow Actuates for fan failure Low DC Actuates if DC<10.5 Vdc, or external 28 Vdc falls below 25.5 Vdc nominal Silence/reset Silences the audible portion of alarms for 5 minutes, except Power fail. Resets Sensor & High Temp alarms after 100% conditions corrected. Resets intermittent power alert if unit switches from AC to DC current Environmental Storage temperature -40° C to 70° C ambient Operating range Sea level to 3 km (10,000 ft.) non--pressurized environment. Sea level to 12 km (40,000 ft.)-pressurized environment Relative Humidity Operating range 0% to 95% RH, non-condensing Electrical AC power requirements 110/120 V, 50/60/400 Hz - 220/240 V, 50/60/400 Hz DC power requirements 11-13 V, 200 W (max) - 26-30 V, 200 W (max) Observation lamp 35 footcandles - 4 inches above mattress 376 lux - 10 cm above mattress | 2 |
| PDS21 | Pediatric Urodynamics and Anorectal Manometry composite machine | | 1. Should have the facility to perform Flowmetry, Cystometry, Pressure Flow studies with EMG, Biofeedback Software for Pelvic Floor Training and Anorectal Manometry 4 channel with water Charge Technique.  2. System should be based on modular concept and should have the facility to be upgradable to Video Urodynamics, Urethra Pressure Profilometry and Leak Point Detector.  3. Should have facility to attach 2 Uroflow transducers. Should be supplied with one weight based Uroflow transducer with flow range of 0-50ml/sec, Volume Range up to 1000ml. Must have auto record and auto zero facility for uroflowmeter.  4. Second Uroflow Wireless  5. Should have 8 pressure channels and should be supplied with 2 reusable pressure transducers. With facility of software controlled transducer calibration. And should be able to display upto 16 channels. Transducer should be reusable with automatic zero facility, pressure range of (-40-350cm) of H2O.  5. Should be supplied with EMG module – 2 Nos.   6. Should be supplied with biofeedback software for pelvic floor training.  7. Should be supplied with Anorectal Manometry 4 pressures channels and should use water charged catheters for the evaluation   8. Should have infusion volume up to 1000ml and software based calibration control.  9. Should have US FDA approval.  10. Should be supplied with integrated travel cart to fit the complete UDS along with PC.  11. Should be supplied with PC Window 7 PRO (Core i3 Duo Processor, 320 GB Hard Disk, LAN, Audio, SATA, 2 GB RAM, and DVD-RW with Printer (DeskJet).  12. Should be supplied 19 inch flat monitor for display.  13. Should have Bluetooth data transfer facility for all measurements from processing unit to measurement unit.  14. Should have ICS Nomogram, Sirosky & Paediatric Nomogram.  15. Should have in built pump for infusion with filling rate of 5ml/min-40 ml/min with software controlled pump calibration with filling volume of 0-1500ml.  16. Should have Facility to compare the waveforms with standard evaluations.  17. Should be supplied with radio-transparent commode chair for micturation studies.   18. Should be supplied with following: a. 2 Lumen Catheter 8 Fr. - 05 Nos. b. 3 Lumen Catheter 7 Fr. - 05 Nos. c. Rectal catheter 10 Fr. - 05 Nos. d. Pump tube - 05 Nos. e. Surface Electrodes for EMG - 05 Nos. f. Measurement tubing - 05 Nos. g. Water charged catheter, Anorectal manometry - 02 pcs  20. Firm should quote rates of all Consumables/Disposables separately for 2 Years | 3 |
| PDS22 | Warming mattress | | Mattress Construction: Flexible polymer heating sheet, with 18mm foampressure relief pad under and 305 g.m-2 expanded polyester omfort lining over. Encapsulated in latex-free nylon fabric cover, with non-microporous Polyurethane coating. In-built temperature sensor and over-temperature thermal cut-out. Temperature Output Range: User-selected ranges within the band: 28°C to 39°C (82°F to 102°F) in steps of 0.5°C (1°F) Over-temperature safety cut-out at 43°C (109°F) Power: Control Unit: 100 Vac or 110 Vac or 230 Vac (±6%), 50Hz/60Hz, 75W  Control Unit: 100 Vac to 240 Vac (±6%), 50Hz/60Hz (auto-ranging), 100W Battery Input Integrated battery module Capacity: 4 hours for standard mattress (NCM1) from full charge Charging: Automatic charging when mains power applied 18 hour charge time from complete discharge to fully charged D.C. Input: 12Vdc to 28Vdc (±10%) Mattresses and Blankets: 24V to 26V (nom.) 20 W to 45 W, depending on size. Dimensions: Type: Size: Weight: CosyTherm Control Unit: CCU1 160 x 240 x 230 mm 4.1kg Mains and Battery: CCU201 285 x 150 x 125 mm 3.2kg Mains, Battery and D.C. Input: CCU202 285 x 150 x 125 mm 4.0kg Mattresses & Blankets: NCM1 610 x 340 mm 0.6kg NCM2 730 x 580 mm 1.1kg NCB1 450 x 500 mm 0.4kg Other dimensions available on request. Compliance: EN60601-1, Class IIb, Type BF EN60601-2-35 EN60601-1-2 93/42/EEC, EEC Medical Devices Directive 73/23/EEC, EEC Low Voltage Devices Directive Environmental : Ambient (Operating): 10°C to 40°C (50°F to 104°F) Ambient (Storage): -10°C to 55°C (14°F to 131°F) Relative Humidity: 30% to 75% | 4 |
| PDS23 | Pediatric Video Gastroscope | | Flexible Video Endoscope  Product Name  Pediatric Gastroscope   Angulation Range Up210 Angulation Range Down90 Angulation Range Right100  Product Information Class Flexible Video Endoscope  Pediatric Gastroscope   Type of Scope Gastroscope  Angulation Range Up210 Angulation Range Down90 Angulation Range Right100 Angulation Range Left100 Insertion Tube Diameter8.5 mm Instrument Channel Diameter2.2 mm Working Length103 cm Total Lengh133 cm Optical System Field of View120 Direction of View Forward Depth of Field3-100 mm Compatible With Light Sources | 3 |
| PDS24 | Suction Machine | | Widely applicable range  Heavy duty pump  Absolute noiseless  Self lubrication system | 9 |
| PDS25 | Pulse Oximeter | | Oxygen Saturation Range (% Sp02): 0% to 100% Pulse Rate Range: 18 to 300 pulses per minute.  Displays: Numerical ;3 digit indicator  Pulse indicator ;pulse strength bar graph  Accuracy: SpO2 – 70-100%+2 digits  Pulse rate +3%  Power Requirements: Two 1.5V alkaline N-cell batteries  Battery Life ;24 hr continous | 12 |

PAEDIATRICS

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | NAME OF EQUIPMENT | SPECIFICATION | TOTAL QTY.  REQ. |
| PED1 | Radiant warmer | * + Micro-computer temperature controller   + Ceramic infra red heater   + Halogen examination lamp   + Stainless steel Baby tray   + Clear acrylic collapsible side panels   + Acrylic baby tray with head up / down facility   + Thick cushion mattress   + Essential attachments: Instrument tray, pole for infusion pump and IV stand   + Skin / Air / Manual (LCD) temperature controllers * Electronic touch keybord * Auto as well as Manual mode selection * Various voltage and timer setting options * Pulse Oximeter Vital Parameter Monitor: with the display integrated in control panel * CPAP: Should have feature of intermittent positive pressure ventilation * Height adjustment: height of the bed along with control & display and warmer unit should be adjustable | 41 |
| PED 2 | Phototherapy LED | * + Phototherapy with LED lamps having dominant wavelength range from 450 to 465 nm.   light weight (approx. 10-15 kilograms) with effective surface area of 50 X 30 centimeters at 35 centimeters from light source.   * + 20 W maximum at 100-240 V.   · Irradiance level should be adjustable from 10% to 100% in steps of 10%.  · Should have programmable timer with reset option.  · Display should show date, time and the treatment time.  · Should have a sturdy base with wheels  · Should have time tantalizer to show the total hours of treatment given by the Unit.  · · Should meet IEC 60601 and European CE Certificates. | 24 |
| PED 3 | Phototherapy Unit (CFL) | Wavelength :420 - 480nm Irradiance : > 18µW/cm2/nm at 40cm  Effective surface area :500mm x 300mm LAMPS : 4 Blue CFLs and 2White CFLs. Height adjustability : 130cm - 180cm from floo Electrical supply :190 - 240 V, 50 - 60 Hz, O.5A Power : 108W DIMENSIONS Approximate sizes are given below. Max. Height : 160cm Lamp Unit dimensions :48cm (L) x 41cm (W) x 9.5cm (H)  Weight : 10-15kg | 17 |
| PED 4 | Neonatal ventilator | * Advanced microprocessor based continuous flow , pressure limited, time cycled ventilator for very low body weight infants (premature, newborns) upto maximum 20 kg, upgradeable for additional functions * Should be an upgradeable design with software/hardware upgradeability for new/ future functions with inbuilt graphic screen * Should have both invasive and non invasive ventilation modes available in the same machine for use on neonatal and premature patients with suitable accessories. * The ventilator should be supplied with heated servo controlled humidifier with suitable hoses and chambers for neonatal patients. * Should have standard Air Compressor . * Should have integrated filters of <1 micron to provide better air quality. * Flow sensor :   + The flow sensor should be of higher accuracy.   + It should calibrate quickly within 5 seconds and data should be measured at proximal end, near the Y piece.   + It should be easily replaceable without disassembling the machine or disassembling the expiratory valve   + At least 10 No.s flow sensor should be supplied for the lifetime of the equipment.      * The ventilator should have ventilation modes as below:   + Pressure Controlled – Control, Assist, SIMV   + CPAP * Should have settings for :  |  |  | | --- | --- | | Peak Inspiratory Pressure | 10 - 80 cmH2O | | Flow independent PEEP | 0 – 25 cmH2O | | Inspiratory Time | 0.1 – 2 sec | | Expiratory Time | 0.2 – 30 sec | | Maximum Rate (based on Insp. Time and exp. Time) | 200 bpm | | Inspiratory flow | 1 – 30 lpm | | Expiratory flow (VIVE) | 1 – 30 lpm | | Slope control | 0 - 2 sec. | | FiO2 (integrated blender without bleed flow) | 21 - 100% | | Trigger | 0.03 – 3 ml adjustable in scale of 1 to 10 (1 most sensitive and 10 least sensitive). | | I:E Ratio (dependant on Insp.Time and Exp.Time) | 3:1 to 1:300 | | Automatic altitude compensation | 780 – 1060 hPa/ mbar/ CmH2O/ |  * The real time data should be monitored at Y-piece for:   + Pressure - Peak, Plateau, Mean, CPAP/PEEP   + Expired Tidal Volume (Monitored), Expired Minute Volume, leakage in %   + Frequency/ Rate - Set (Inspiratory), Spontaneous MV in %, total , I:E ratio   + FiO2   + Lung Mechanics - Resistance, Compliance , C20/C, Time constant Tc, RVR   + Integrated graphical trend   + Integrated alarm log * Should have automatic alarm settings for all alarms with clear text messages/ corrective action for:   + Disconnection   + Tube blocked   + Ventilation hose kinked   + High/low Pressure   + High/low Minute Volume   + High Rate   + High Tidal Volume   + Apnoea / apnoea alarm time   + High/low O2 % (automatic settings)   + Oxygen line failure   + Compressed air failure   + Total electronic failure (with error code) * Scope of supply should include   + Basic Unit ( 220 - 240 V)   + Modular corrosion free Trolley - of same make as the quoted brand and no local substitute will be accepted/ should be offered.   + Silicon heated Hose set for use for neonatal patients   + Standard Servo controlled humidifier with reusable chamber   + Air Compressor of same make.   + Heated Flow sensor - 10 no.s   + Three O2 cell   + Nebulising facility   + Oxygen connecting Hose – 3 meters   + Air connecting Hose – 3 meters   + Hinged arm Support for patient circuit – should be of same make as the quoted brand and no local substitute will be accepted/ should be offered   + Neonatal test lung with variable compliance and resistance   + Instruction Manual   Quality Standards and Support requirements –   * + The unit also should have FDA certification   + The unit should comply with relevant IEC Certification   Ventilator should have two hour battery backup. In case of low battery backup supplier should supply UPS compatible with supplied ventilator | 08 |
| PED 5 | Pediatric Ventilator | * Microprocessor Controlled ventilator with integrated facility for Ventilation monitoring suitable for New born to Pediatric ( Upto 18 years) ventilation. * Colored TFT screen, 12 Inch or more * Facility to measure and display  a) End tidal CO2 with capnography. b) 3 waves- Pressure and Time, Volume and Time and Flow and Time. c) 3 loops- P-V, F-V, P-F with facility of saving of 3 Loops for reference.  d) Graphic display to have automatic scaling facility for waves e) Status indicator for Ventilator mode, Battery life, patient data, alarm settings, clock etc * Trending facility for 72 hours with minimum 5 minutes resolution for recent 24 hours * Following settings for all age groups. a) Tidal Volume  b) Pressure (insp) c) Pressure Ramp d) Respiratory Rate e) SIMV Respiratory Rate f) CPAP/PEEP g) Pressure support h) FIO2 i) Pause Time j)Pressure & Flow Trigger * Monitoring of the following parameters  1. Airway Pressure (Peak & Mean) 2. Tidal volume (Inspired & Expired) 3. Minute volume (Inspired and Expired) d) Spontaneous Minute Volume e) Total Frequency f) FIO2 dynamic  g) Intrinsic PEEP and PEEPi Volume h) Plateau Pressure i) Resistance & Compliance j) Use selector Alarms for all measured & monitored parameters  * Modes of ventilation a) Volume controlled b) Pressure Controlled c) Pressure Support d) SIMV (Pressure Control and volume control) with pressure support e) CPAP/PEEP  f) Inverse Ratio Ventilation g) Advanced mode like pressure controlled volume guaranteed h) Non Invasive ventilation i) APRV * Apnea /backup ventilation * Should have the ability to calculate / Procedure  a. Intrinsic Peep & Intrinsic PEEP Volume  b. Occlusion Pressure c. Spontaneous Breathing trial d. Facility to calculate lower and upper inflection point * Standard Medical Air Compressor. a) stand alone Medical Air compressor  b) Snap fit with the Ventilator module to provide an oil free Medical air   c) Peak output flow should be minimum 160 LPM.  d) Air quality should comply with ISO compressed air purity class. e) Medical Air Compressor should automatically activate in the event of wall air supply loss.  f) Replacement of internal filters should be performed without  removing the compressor g) Should have washable air filter.   * Battery back up for minimum two hour. In case of low backup supplier should supply compatible UPS with ventilator. * Supplier should disclose System Configuration Accessories, spares and consumables. | 010 |
| PED 6 | Bubble CPAP machine | The Unit should consist of microprocessor based FLOW DRIVER system with auto correction of Airways Pressure to Overcome Patient Leakage/Blockage.   User friendly , Digital display & touch key setting of CPAP  HIGH/LOW pressure alarm settings  CPAP range 2 to 15 cm H2O  Auto shut off facility if high pressure alarm persists for more than 5 sec.  Digital display of oxygen concentration (Fio2)  HIGH/LOW oxygen concentration (Fio2) alarm settings  Heavy duty Air Compressor unit along with micro filters provides continuous clean air.  Air/Oxygen Mixer  Separately calibrated rotameters for Air & Oxygen provides highly accurate Oxygen concentrations as per the requirement.  Digital Thermo Humidifier  Digital display & touch key setting of blended gas temp.  > 2° HIGH temperature alarm & 39°C over temperature alarm  Alarm mute with auto reset (alarm mute timing programmable)  Probe fail alarm  Detachable & Autoclavable water chamber  Should have minimum one hour battery back up  Should mention accessories supplied by distributors.   * + Inline water manometer provided to indicate the CPAP level. | 17 |
| PED 7 | High frequency ventilator | Ventilator should have the capability to ventilate both in Conventional, and High Frequency Oscillatory mode in neonates and babies up to 5 kg, for both types of ventilations.   1. Conventional ventilation to have all modes viz. CPAP, CMV+TTV, PTV, PSV, SIMV+TTV+PSV. 2. Should deliver Targeted tidal volume on each breath and measures the actual volume to proximal flow sensor. 3. Built-in FiO2 monitoring facility. 4. Built-in Electronic blender. 5. Should have both flow and Pressure trigger. 6. Ventilator should have large touch screen (around 12 inch) user interface required for all ventilator functions. 7. Colour Monitor should display Pulmonary Graphics & loops with in- built integral pulmonary graphics monitoring facility for monitoring   (a) I: E ratio (b) Measured Ti (c) Measured Te (d) Tidal volume (e) Minute volume (f) ET tube leakage (g) Resistance (h) Compliance (i) Pressure flow & Volume waveforms with freezing facility for review (j) Flow / Pressure, Flow / volume, Volume / pressure loops.   1. Should have adjustable apnea alarm with apnea support in all modes. 2. Facility to switch over from Conventional to HFO and vice versa without stoppage of ventilator operation. 3. Ventilator to use only one type of patient circuit both for conventional & HFO mode operation (Be it reusable or single use). 4. Should display actual delta pressure percentage on continuous basis. 5. HFO/CMV mode should be both in inspiration & expiration phase. 6. Should display absolute Delta pressure values on real time basis in HFO mode. 7. Should have in built rechargeable battery back up for 45-60 minutes operation; Battery life-10 years. 8. One Re-usable patient Circuit and two disposable circuits to be supplied.   - Please quote the prices of both types of Patient Circuits separately.   1. It is essential to enclose Brochure /Catalogue of the firm supporting the specification claimed to be present in the equipment. | 03 |
| PED 8 | Multipara monitor | * High resolution TFT colour display. * Standard configuration of ECG, Resp, SpO2, NIBP, Temp. * Arrhythmias detection. * 3- Lead/5- Lead ECG Monitoring * Maximum 8 waveforms display; Including 4 ECG waveforms display; Customised waveforms display order. * Alarm event review- Crisis & warning. * Full parameter storage function while power off. * EtCo2 * Built in Rechargeable battery with atleast one hour battery back up. * Supplier should mention type of probe / technology based / accessories supplied. | 28 |
| PED 9 | Pulse oximeter | Portable equipment with large LCD display with contrast control  Displays SPO2 and Pulse rate of the baby.  Should have neonatal and pediatric probe as essential attachment.  Pitch tone variation with saturation level  Good viewing angle.  Mains / battery operated with 2 hours of operating time  Should be able to show 24 hours trends  Comprehensive alarms for low and high values of SPO2 and pulse rates. | 15 |
| PED 10 | Syringe pump | Fully microprocessor controlled.  Graphic display showing trajectory of drug concentration infuse.  Battery backup of minimum 5 hours.  Audible and visual alarm system for emergency breakdown.  Mains and battery operated.  Minimum infusion rate of 0.01 ml/hr.  Able to deliver bolus dosages maximum 800ml/hr.  Automatic syring e identification | 70 |
| PED 11 | Oxygen concentrator | * Portable (not bulky), user friendly, safe & reliable * Shorter setup & testing time * Weight preferably below 20 kg * Oxygen flow rate 0-5 LPM * Sound Level < 40dBA * Oxygen concentration 88-94% * Operating temperature 5-40 degree C * Alarm system * Atleast one hour battery back up. * Preferably can be used to two patients at a time ( Double Outlet) | 10 |
| PED 12 | Transcutaneous bilirubinometer | 1. Equipment should give direct value of bilirubin in same units as of TSB i.e. in mg/dl or µmol/L. Device should have measuring range of 0-20mg/dl or 0-340 µmol/L. 2. Life of equipment should be minimum 150,000 measurements. 3. Unit should have two digit LCD display. 4. Equipment should not require any user calibration. 5. Equipment should be very light in weight. 6. Battery should be able to give at least 400 measurements when fully charged and should give visual indication when battery is low. 7. Accuracy should be < +/- 1.5mg/dL 8. Equipment should be suitable to use in outpatient / Inpatient setting 9. Equipment should not require any disposable parts for functioning. 10. US FDA Approved. 11. Machine should have carrying case along with. Supplier must disclose other accessories and recurring expenses if any. | 06 |
| PED 13 | Portable echo machine | 1. State of the art, fully digital, premium end latest live echo cardiography color doppler system for both adult and pediatric and neonatal patients including all basic and specialized cardiac and vascular applications. 2. Should be a portable, laptop size, light, high performance phased array echo system. Should weigh between 4.5 – 9 kgs (with battery) with 10 – 15” flat panel, high resolution LCD colour display. 3. System should have following display modes, covering all basic and specialized cardiac and vascular applications. 4. M-mode should also have angular / anatomical M-mode (any axis M-mode) facility, with upto 3 M-mode omnidirectional cursors. M-mode should also show quantitative segmental wall motion scanning facility. 5. 2D with facility for real time contrast studies. 6. Colour doppler, pulse wave doppler, HPRF, fully steerable continuous wave doppler. 7. Should have tissue harmonic imaging capability with quantification. 8. Contrast harmonic imaging with quantification facility should be present. 9. Should have advanced stress echo package with ECG gating with possibility of online as well as offline TDI and myocardial velocity with protocol templates for WM scoring and reporting with segmental wall motion analysis software for quantification of endocardial segmental motion. 10. Color coded tissue doppler must be available with quantification for myocardial thickness, strain and strain rate imaging with facility for real time and off line calculation of velocity of myocardial segments. Should preferably be displayed after intracardiac cycle in one single image. 11. Power doppler for small flow should be available. 12. Transducers should have broadband harmonics and compound array probes. System to be offered with phased array cardiac probes for adult, pediatric and neonatal probes and a linear probe for peripheral vascular studies along with TEE probes for adult and pediatrics applications.   All probes should be multi frequency.  1.5-5 MHz electronic phased array for adult cardiac study.  3.75-7.5 MHz electronic phased array for neonatal / pediatric applications.  5-13 MHz electronic linear probe for vascular studies.  Multifrequency multiplane adult transesophageal probe.  Multifrequency multiplane pediatric transesophageal probe   1. Should have Scanning depth of 30 cms or more. 2. Should have minimum 3 active ports. 3. Should have high frame rates of more than 500 FPS. 4. Comprehensive measurement and analysis packages and report pages for all routine and advanced cardiac application. 5. Cine loop memory of atleast 10,000 frame / 200 sec. 6. 1000 patient data memory should be available. 7. System should have algorithms to improve 2D image quality including optimization for spatial and temporal resolution. 8. Atleast 60 GB onboard HDD for storage. 9. Should have integrated hard disk for image storage / recall with complete image management and post analysis on stored images. 10. Should have full Dicom support inbuilt, ready for connecting to remote server / laser camera. 11. Able to transfer images and clips to CD & DVD as AVI files. 12. Direct compatibility to attach inkjet / laserjet printer along with a CD-RW must be available. 13. Should be quoted with B/W thermal printer with 100 rolls with facility for color print. 14. Image management system with latest computer-Pentium-IV dual core, 120GB, HDD, DVD writer, CDR W and colour laser. 15. Appropriate rated UPS with at least 30 minutes backup in addition to inbuilt battery back-up of 60 mins to be provided as accessory. | 03 |
| PED 14 | Cerebral function monitor (Amplitude integrated EEG) | 1. Should be compact  2. Continuous real time bedside monitoring of cerebral function in preterm and term babies  3. At least 3 electrodes  4. Real time and review modes  5. CFM, impedance, and aEEG display  6. Shows trends and transient events  7. Onscreen indication/alarm for abnormal conditions (impedance, interference) or device malformation  8. Built in safeguard for interruption in power supply, self calibration check, and lead-off alarm  9. Battery back up for 60 minutes  10. Laser printer  11. Source for removable storage devices  12. 220-240 V (supplies continuous power for round the clock)  13. Should have internal memory to store data for 20000 hrs of monitoring to maintain complete patient file management.  14. Should be simple and easy to operate with LCD touch screen display.  15. Should have facility to customize markers, display style, language, operation mode, print traces & patient information display as per user preference.  16. Should provide color coded alerts and status messages for caution & action to be taken.  17. Should be supplied with viewer software to transfer & view the data to any Microsoft window PC, print & capture images  18. Should have inbuilt CD/DVD writer for archiving patient files and software updates  19. Should have inbuilt thermal printer to print traces & other patient information.  20. Should have facility to select different combination of graphs for print.  21. Should have RS 232 interface & serial IO port for Network / Ethernet connection.  22. Should have inbuilt handle for easy transportation.  23. Monitor should be supplied complete with cart, thermal paper, electrode, EEG paste and Disposables/reusables enough for 500 patients.  24. EEG Electrodes- 12, Skin preparing gel-10 in number25. Should conform to international quality standard.  Newer machine can monitor 2/4 neonatal simultaneously, facility. | 02 |
| PED 15 | ECG machine | * Large color monitor to view 3-, 6-, and 12-lead ECG printouts in real-time * Portable ECG Stores up to 300 electrocardiograms * Manual or automatic 3-, 4-, 6-, and 12-lead ECG printouts * Should have pediatric leads. | 04 |
| PED 16 | Defibrillator | * Automatic adaptation of the energy level when paediatric electrodes are connected   External pacemaker:   * 3 pacing modes: Fix, Demand, Overdrive (frequency x 3)   Monitoring:   * ECG: simultaneous display of up to 12 leads * SpO2 measurement and plethysmogram as soon as the cable is connected * NIBP: paediatric; the last 4 measurements are displayed on the screen * Capnometry   Printer:   * Possibility to print up to 12 ECG leads, SpO2 curve, tabular trends, and the defibrillator test result * 3 channels; paper width: 80 mm | 03 |
| PED 17 | Incubator | 1 Description of Function  1.1 An infant incubator provides a closed, controlled environment that warms an infant by circulating heated air over the  skin. The heat is then absorbed into the body by tissue conduction and blood convection. Ideally, both the skin and core  temperatures should be maintained with only minor variations.  2 Operational Requirements  2.1 High quality with humidity and servo controlled double walled with cabinet incubator.  2.2 Microprocessor controlled, easy access control panel with feather touch switches  2.3 With a facility to elevate base to offer adjustable range  2.4 Facility with both servo control as well as air temperature control and servo humidifier  2.5 Accommodates shelves and IV poles.  2.6 The quality of the material used should very high and crystal transparent  2.7 Super quality microprocessor based control system - self test functions are performed  2.8 System required complete with Oxygen port with tubing and Gel Mattress.  3 Technical Specifications  3.1 Continuous bed tilt up to 8° on either sides  3.2 Head end raise facility with auto lock.  3.3 Both visual and audible alarms for  (i) Patient and control and high / low temperature alarm.  (ii) Air circulation / probe / system / power failure alarm.  (iii) Humidity control alarm.  3.4 Facility to take x-ray and weight without removing baby.  3.5 Facility to display and trends of temperature information on compatible monitors with other physiological parameter  3. 6 Height 140 cm + 5 cm, depth at least 60 mm , width at least 90 mm.  Mattress to hood distance 40 cm working level – 90 to 100 cm.  Iris port for tubing, probes, leads.  4cm thick gel mattress, easily cleanable.  With at least 4” diameter caster wheel with swivel in all directions and with front lockable wheels. Two shelves cabinet with door.  Weight 90-100 kg.  3.7 Patient control (Servo) mode – 35 deg-37 deg C. and Air Control (Manual mode)- 20 deg C to 39 deg C  3.8 Air velocity less than 10 cm/sec with inner wall.  3.9 Temperature variability less than +/-0.2 deg C. and  Temperature resolution 0.1 deg C  3.10 Average oxygen input concentration range 5-15 liters/min or 25-70%.  3.11 Humidification adjustable electronically with digital display .  Standard: 10-80% dependent on nursery environment and incubator temperature setting.  3.12 Double wall canopy with Six hand ports with elbow operated flaps with separate ports for tubing.  3.13 CO2 flushing, according to lEC 601-2-19 / 105.1 Maximum C02 concentration inside incubator 0.2%  3.14 Servo control for Oxygen with integrated monitoringHLL Lifecare Limited  3.16 Air filter :- 0.3 micron  3.17 Built in weighing scale with sensitivity of + 1 gm  3.18 Mattress should be radiolucent  3.19 Provision for X ray cassette holders  3.20 2 drawer storage facility and two platforms for keeping monitors , able to bear at least 5 kg weight each.  4 System Configuration Accessories, spares and consumables  4.1 System as specified  4.2 Two sets of extra non disposable temperature sensors and humidification sensors.  5 Environmental factors  5.1 Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility or  should comply with 89/366/EEC; EMC-directive.  5.2 The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-  90%  5.3 The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-  90%  6 Power Supply  6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug  6.2 Suitable UPS with 30 Min Backup for complete system  7 Standards, Safety and Training  7.1 Should be FDA/CE or BIS approved product  7.2 Manufactures/Supplier should have ISO certificate to Quality Standard.  7.3 Electrical safety conforms to standards for electrical safety IEC-60601-2-19:Medical Electrical Equipment part 2 Particular Requirements  of Safety of Baby Incubator.  7.4 CMC should provide 4 non disposable temperature sensors and sensors for humidity control every year per incubator.  8 Documentations to be provided  8.1 User/Technical/Maintenance manuals to be supplied in English.  8.2 Certificate of calibration and inspection.  8.3 List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.  8.4 List of important spares and accessories with their part number and costing. 8.5 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job descriptin of the hospital technician and company service engineer should be clearly spelt out. | 08 |
| PED 18 | Flux meter | Flux meter with a well designed filter which should have a transmission area of 425 to 475 nm spectrum range to timely mension the irradiance output of phototherapy unit. | 17 |
| PED 19 | Air Oxygen Blender | 1. High quality corrosion resistant sainless steel.  2. Able to supply fio2-21 to 100%.  3. Compatible with standard fitting.  4. Compact unit.  5. Supplied with two outlets providing different flow rats.  6. ISO- 9001  7. Should be wall mountable. | 30 |

PATHOLOGY

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| SR. NO | NAME OF EQUIPMENT | SPECIFICATION | TOTAL |
| PAT1 | Microwave Tissue Processor | Complete with: 110 or 180 Cassette Rack;  Three (3) Processing Modules (1 Reagent, 1 vacuum, 1 Paraffin);  Three (3) Tray Carriers / Positioning Plates;  One (1) Multi-Function Process Lid;  Integrated Windows Touch screen Control Module;  Integrated vacuum System  Up to 120 specimens per hour  Should be complete in respect of:  Load station  Microwave station  Vacuum station  Unload station  Continuous loading and unloading should be possible.  Processing time ranging from 60 to 120 min  Temperature ranges  Microwave stations 610 C ± 20 C  Vacuum Stations 650 C ± 20 C  LCD Display with touch screen  Complete software for manual and auto starts, should be able to do standard or extended programs.  Reagent management system with counter for cassette | 3 |
| PAT 2 | Cryostat- | 220V, 50/60 Hz with disinfection system and motorized.  Microtome  Rotary microtome  Section thickness setting 1 - 60 μm  Vertical stroke 59 mm  Maximum specimen size 55 x 55 mm  Specimen orientation 8° (x-, y-, z-Achse)  Electric coarse feed  Slow 0.2 mm/s  Rapid 0.7 mm/s  Range  Maximum: 28 Sections per minute  Minimum: 2 sections per minute  Refrigeration system-  0 to -35c, quick freeze shelf max temp -40c  Automatic hot gas defrosting  Quick freeze stations 10 or more   * Cryobar Temperature -500 C minimum (Cryo + Section) * Sectioning Speed | 3 |
| PAT3 | Flow cytometer- | Excitation or more but should have this-  488nm (rated at 20,000hr life or more)  640nm (rated at 20,000hr life or more)  ●The system should have the capability of 6 fluorescence & 2 scatter(8 parameters) measurement with minimum 2 fluorescence channels with 640 nm laser upgradable to 8 fluorescence & 2 scatter(10 parameters) measurement.  ●The system should have provision for future up gradation with violet laser with fixed aligned excitation & collection optics.  ●Sensitivity of the system should be less than 100 MESF for both FITC and PE channels.  ●The system should have threshold on multiple channel/parameters for a single sample run.  ●The system should have fixed optical assembly of laser upon the cuvette flow cell to ensure fixed alignment.  ●The system should have octagon shaped collection optics for enhanced sensitivity.  ●Speed- ≥10,000 events/second or better.  ●Signal processing 24-bit A/D conversion  ●The system software should be capable of establishing baseline settings of system performance and be able to adjust for instrument variability thereby automating instrument setup.  ●Automated software – controlled fluidic start –up. Shutdown & cleaning cycle should be possible in the system.  ●The system should be IVD approved  ●Data management system: pc workstation with at least 2.8 Ghz, latest intel, windows 8 or latest compatible software,1Tb hard drive, dvd/cd write combo drive, 18” lcd/ LED monitor and color laser printer.  ●The company should preferably have a flowcytometer training centre in India. | 3 |
| PAT 4 | Fully automated clinical electrophoresis system | Cellulose acetate strip  Applicator with 8 independent probes.  Sample plate with 8 & 4 wells.  Electromagnetic arm guided processes.  Migration chamber with carbonium electrode or electrode with better electrical conductivity.  Inbuilt strip dryer  Inbuilt LCD with process visualization facility.  No fluidic system.  Inbuilt densitometer  RS 232 port  Data management software with interpretation of result. | 3 |
| PAT 5 | Cytocentrifuge | •The speed is selectable between RPM or RCF from 100 to 6,000 rpm or better  •The acceleration can be set to fast, medium, or slow in order to protect the cells.  •The stopping times should be programmable for gentle cell treatment.  •Alarm function indicating unbalance | 3 |
| PAT 6 | Knife sharpner for microtome knife | Fully automated Microprocessor controlled  Knife length- 110-250 mm. or more  Thickness <13 mm.  Grinding angle- 22-45 or better  Timming range- 1-60 mins  Knife interval- 5,10,25s & unilateral | 4 |
| PAT 7 | Automated Staining System For IHC/ISH/Special Stains | Specifications  Fully Automated • Baking, deparaffinization, cell conditioning and staining, including IHC , ISH, SISH, immunofluorescence, multiparameter IHC staining (dual, triple), counter stain, and titration or better.  Slide capacity 1 – 30 slides or more with independent processing/functionality and temperature control for each position  Reagent capacity : 20 or more reagent positions  Use proprietary eco-friendly deparaffinization solution  Slides size 25 x 75 mm, 1 x 3 inches or 26 x 76 mm  Immediate processing of high priority slides  Add new slides and remove stained slides during a run  up to 90 or more slides stained in one 8-hour shift  Bulk solutions :Up to 7 different bulk reagents to be changed without process interruption  Audio and visual prompts in multiple languages  Waste capacity--- 8 Litres or more, waste level sensor and changebility without process Interruption  DI Water Supply • NCCLS Type II water or equivalent (deionized water)  Temperature Uniformity +/- 2ºC  Reagent Dispensing Accuracy: +/- 5% or better | 3 |
| PAT 8 | Chemiluminescence Analyzer | Test speed : 10 test /hour or more  Reagent position 10; simultaneously lays aside at least 10 kind of reagent  Reagent bar code, reagent remainder warning  QC software & interfacing.Pathologic curves database  Touch screen operating module with latest windows version  Shulod have option for addittion of new latest tests. | 3 |
| PAT 9 | Genetic lab set up | High Throughput Real-Time PCR Thermal Cycler-  1. An automated sequence detection system for a high throughput continuous detection and quantitation of nucleic acid sequences by real-time PCR techniqueusing in-built Peltier based thermal cycler. With a simplified workflow, intuitive software, it should offer exceptional reproducibility with minimal well-to-wellvariation.  2. Real-time amplification for measuring nucleic acids from purified samples using 96 and 384 well plates with 96 and 384 interchangeable block.  3. Measurement mode - Real-time measurement, on-line continuous display ofreadings during the run.  4. The system should be fully compatible with the full range of TaqMan assays including MicroRNA assays, Long Non-coding RNA assays, and Pri-miRNA assays.  5. The System should offer latest optics and technology providing enhanced fluorescence detection enabling accurate and sensitive data analysis.  6. The system should complete 40 cycle real time PCR reaction using flurogenic 5’nuclease assay and fast chemistries in a standard 384 well plate under 35 minutes. Instrument should also run in standard ramping mode with standard chemistry.  7. Sensitivity: Demonstrated down to 1 copy.  8. Resolution: Should detect as little as 1.5-fold changes in target quantities in single-plex reaction.  9. Upto Six decoupled excitation and emission filter channels for the greatest number of dye combinations and maximum multiplexing capabilities.  Excitation & Detection wavelengths:  6 excitation (450–670 nm) and 6 emission (500–720 nm) filter sets to enable collection of up to 21 unique combinations of wavelengths during a single run for multiplexing. Calibrated dyes at installation should be FAM, SYBR, SYTO9, Fluorescein, SYPRO, JOE, TET, H X, TAMRA, NED, BODIPY, TMRX, ROX, Texas Red, LIZ, Alexa fluor, Joda4.  10. Should support following blocks and volumes: 96-well standard ramp rate (10–100 μL reactions) 96-well high ramp rate (5–30 μL reactions)  384-well (5–20 μL reactions)  Any other block options should be also included.  5  All blocks should be easily changeable by the user.  11.Full compatibility with any standard or fast-cycling 384- or 96-well plates and reagents.  12.The vendor should provide ready made and validated Taqman primer probe assays for different genes in human, mouse, rat etc. in 384 well preloaded ready to use format to validate microarray hits quickly and economically.  13.Optimum reaction volumes for each application – 5 to 100 μl. The vendor should  specify minimum working volume if lower than 5 μl. Preference would be given to those platforms that minimize reaction volumes to 2 μl or less.  14.The manufacturer should be able to provide a choice of ready-made assay kits or ready-to-make assay kits for Gene Expression as well as SNP analysis.  15.The vendor should provide comprehensive training on the operation of the instrument, chemistry options and software. This training should be provided free of cost.  16.Any other additional protocol/accessory that would facilitate high-throughput analysis of gene expression especially using the Taqman chemistry should be included.  17. A business line PC Workstation and software (including offline analysis) should be provided with the system. However, a stand-alone instrument (such as built-in touch screen that provides one touch protocols for fast and easy assay setup for broad range of applications) would be preferred.  18.LAMINAR FLOW VERTICAL:  Recirculated lamina HEPA filtered air. Stainless steel working surface with high lighting & stainless steel portioned bench  19.REFRIGERATOR – 40C & REFRIGERATOR – 20C  Laboratory freezers -40c & -20c. low temperature medical refrigerator  Specifications:  Microprocessor temperature control  Digital temperature display  Adjustable temperature of -40c to -20c.  Alarms for over temperature & under temperature  20.ULTRA HIGH SPEED CENTRIFUGE   |  |  | | --- | --- | | Maximum RPM | 20000 rpm | | Maximum RCF | 254,345 x g | | Maximum capacity | 6 x 250 ml | | Speed preset & display | 1 rpm | | Temperature range | -20c to +40c | | Timer | 9 hrs59 min & hold for free run | | Acceleration time | 10 setting | | Deceleration time | 10 setting | | Programmability | 20 memory | | Rotor recognition | 10 rotors | | Rotor radius set range | 0.1 mm to max. radius | | Digital display | RPM,RCF,time,temperature,temp limit, program,2 accel/decal time, rotor number, rotor radius, self test | | 4 |
| PAT 10 | Fullyautomated coagulometer | Fully autmated 4 channel coagulation analyzer. Scattered Light Detection LED based light source.  Automatic sample & reagent mixing in cuvettes & sensor for detection of reagent.  Parameters PT, APTT, Fbg,TT& ALL FACTORS(Extrinsic and instrinsic)  Built in display & graphic printer.  Data management software.  Inbuilt graphic printer with 232 port for ext. printer with software. | 4 |
| PAT 11 | A compact HPLC unit with inbuilt operating modules | I. Binary Pump for Semiprep work  Operating pressure: upto 6000 psi  Flow accuracy: +/- 1.0%  Flow precision: ± 0.1% RSD  Programmable flow rate range: 001 - 20.0 ml/min in 0.001 ml/min increments.  No. of eluents: 2  Pressure Ripple: <2.0%  Operating pressure limits: Programmable with high and low pressure limits, user selectable in psi, bar, kPa.  Flow extendable to 45.00 ml/min along with extended flow kit  Option for use under extended flow rate  II. Pump Operating Method: Gradient  III. Sample Injection System  Mannual option With Auto-sampler Injection  IV. Detectors:  Photodiode Array Detector (PDA detector)  Wavelength range: 190 - 800nm.  Light source: Prealigned, Deuterium lamp  Spectral Resolution: 1.2nm per photodiode with a total of 512 photodiodes, digital and optical (3D modes).  Data Rate: Upto 80Hz  Digital Resolution: 1.2nm - 600nm (2D mode).  Wavelength accuracy: +/\_ 1nm.  7  Linearity range: >5% at 2 AU Prolylparaben, 257nm.  Baseline noise: 10.0 x 10-6 AU, at 254nm.  Drift: < 1.0 x 10-3 AU/hour/°C, dry cell at 254nm.  Sensitivity setting range: 0.0001 - 2.0000 AUFS (under software control).  Filter setting range: 0, 0.1, 0.2, 0.5, 1, 2, 3  Path length: upto 10mm  Cell Volume: upto 8ul  Pressure: upto 1000psi  Wetted materials: 316 stainless steel, fused silica, Tefzel  The detector should have lamp optimization software.  Note: Should have the option to add on/use other detectors as and when needed.  V. Column oven model: Temperature Range Ambient +4°C to 60°C  VI. Columns  C-18 : 250 x 4.6 mm  C-8: 250 x 4.6 mm  Pre-column derivatisation kit for Amino Acids  Bio suite C-18 PA-A 3 μm: 4.6 x 250 mm  Protein pak: 7.8 mm x 300 mm  VII. Software and Computer System with add-on facility  Single point control of the entire HPLC  Mass detection software  Maintain security and regulatory compliance  Versatility for multitasking without multiple software package and should have different interface like QuickStart Pro, Open Access, etc.  With Windows XP or better new version openvironments with compatible database.  Data Integrity, Advanced Security, Audit Trails.  Customizable data reports, online help wizards  Report publisher  Should have the facility for up-gradation of software and programme modules  VIII. Latest model Pentium quad core processor computer with 3.0GHz, 8 GB RAM DDR3, 1 TB hard disk and compatible with Windows XP Professional/ windows 8 or higher versions from standard company  IX. Coloured laser printer  X. Online UPS 3 KVA with at least 60 minutes back up.  XI. Water purification System (from tap water to ultra pure water for HPLC)  Cost of all assesory to be qouted together. | 3 |
| PAT 12 | Elevated gross station with infrared controls | With Gross Tool system, Grossing Board and instruments for Grossing and trimming.   * Constructed from high quality stainless steel, elevated grossing station, floor model. * Should have facility for:   + Camera mount   + Cassette Holder   + Disposal, ¾ HP (factory Mount) and 1 HP (factory mount)   + Dissecting Board   + Eyewash Assembly   + Filter Activated Carbon and Potassium Permangnet   + Flammable Storage Cabinet   + Foot Pedal control Voice activation   + Formalin Dispense/collection system   + Forms Holder   + Full Perimeter rinse   + Glove Box Holder   + Magnifier Light, Deck Mount   + Microphone on Flex Arm   + Monitor and keyboard stand   + Rule   + Scale-Digital   + Seismic Anchoring Kit   + Shelving/cabinets-Stainless steel   + Side Splashes, Splash Shield and Plexiglas   + Trash Container (ventilated)   + Utility Drawer   + Valve air and gas   + self contained Ventilation assembly   + Video camera arm   + Video or dictation mount   + Voice activated dictation   + Writing Platform (preferably Pull-out)/viewing device   + X-ray illuminator   THE BID SHOULD INCLUDE QUOTATION FOR -  (A) GROSSING TOOLS:  Standerdised Grossing tools eg Trimming Knives, Grossing forks, Semi disposable autopsy knives, dissecting scalpel and replaceable blade scissors. Should be easy to clean and decontaminate.  (B) GROSSING BOARD:   * Not less then 50x40x2.5 cm size along with grossing forks 1.5, 2, 2.5 mm * Cleaning Brush * Easily adjustable wells, calibration of wells position of tissue and desirable thickness | 3 |
| PAT 13 | . Laboratory CENTRIFUGE | 1. Table top model with swing out rotor head 16 tubes of 15 ml. glass tubes. 2. Digital speed indicator with 60 min. Count down timer. 3. Speed 4000rpm & RCF2750 with rotor head. 4. Dynamic breaks, Imbalance detector, cut-off in case of uneven load. 5. Step less speed regulator & safety lid interlock to prevent lid opening during operation. 6. 220-240 volts, 50 Hz. | 46 |
| PAT 14 | Laboratory CENTRIFUGE (Research) | * 1. Table top model with swing out rotor head 16 tubes of 15ml.glass tubes.   2. Digital speed indicator with 60 min. Count down timer.   3. Speed 4500 rpm & RCF3485 with rotor head.   4. Dynamic breaks, Imbalance detector, cut-off in case of uneven load.   5. Brushless induction motor with frequency drive.   6. Step less speed regulator & safety lid interlock to prevent lid opening during operation.   7. 7segement LED display of speed.   220-240 volts, 50 Hz. | 30 |
| PAT 15 | Centrifuge for Micro-hematocrit | 1. Centrifuge for Micro-hematocrit 2. Table top model with rotor head to accommodate 24 capillaries with Reading device. 3. Digital speed indicator with 15min. Count down timer. 4. Speed 12000 rpm & RCF15300 with rotor head 5. Witch to quick accelerate to full speed. 6. Dynamic brakes, Imbalance detector, cut-off in case of uneven load. 7. Brushless induction motor with frequency drive. 8. Step less speed regulator & safety lid interlock to prevent lid opening during operation. 9. 7segement LED display of speed. 10. Step less speed regulator & safety lid interlock to prevent lid opening during operation. 11. Automatic door opening through gas hinges. 12. 220-240 volts, 50 Hz. | 2 |
| PAT 16 | Deep freezer (-20) horizontal | 1. Capacity 170 litres &Required Temperature lowest -20 o C 2. Outer body made of powder coated CRCA steel 3. Inner chamber Non-corrosive, non-magnetic stainless steel 304 AISI grade. 4. PUF insulation between inner and outer chamber. 5. High tech solid state digital Temperature indicator cum controller. 6. Unit to be supplied with Voltage stabilizer. 7. Dimensions outer: mm 1150(W) x 500(D) x 910(H) Inner :600(W)x400(D)x700(H) | 3 |
| PAT 17 | Blood bank centrifuge | 1. Unit suitable for high load blood processing centre. 2. Required Swing out rotor head to accommodate 4 double bags or 6 single bags. 3. Should have advance microprocessor control. 4. Inbuilt pre-cooling programme, self diagnosis of errors, option to set and indicate RCF. 5. Should have features of acceleration and deceleration profile. 6. Imbalance detector & cut off in case of uneven load. 7. Brushless induction motor with frequency motor. 8. Temper proof password protection, safety lid lock to prevent unauthorize use. 9. Simultaneous display of set and run parameters. 10. Max. Speed 4500rpm & max RCF6000. | 8 |
| PAT 18 | Rotary MICROTOME | 1. Manual Rotary microtome with knife holder and specimen holder and all accessories. 2. With imported heavy duty knives 200 &240 mm 3. Range of thickness 0.5 um to 60um, increment 1um to 10um 4. Horizontal advance of specimen 30mm and vertical stroke 60mm. 5. Universal knife holder base for different knives along with disposable knife holder with safety finger protection guard. 6. Maximum specimen size 50x60x40mm. | 18 |
| PAT 19 | Automatic tissue processor | 1. Fully automatic tissue processor with capacity of 200 cassettes per run. 2. LCD display with 4 lines, Digital programming up to 9 programmes. All controls should be operated by feather touch keys. 3. Should have 12 heated stations with (3 wax baths) with cover. 4. 2 litre glass jars with fume hood with continuous agitation. 5. Programmable 12 stage timing sequence for each stage for duration 1 min to 9 hrs, in steps of one minute with delay time upto 99 hrs. 6. Automatic wax bath ( PID temperature controller and PT 100 sensors). With facility of Vacuum operation and Protection hood. | 7 |
| PAT 20 | Bone Decalcifier Digital | 1. Suitable for use in histology for decalcification of bone tissue by electrolytic action. 2. Through the combination of heat and fluid agitation. 3. Basket movement provided by an electric motor to raise and lower the basket as well as rotate it. 4. Digital temperature control and display along with timer. | 3 |
| PAT 21 | Fully Motorized Programmable Rotary Microtome | 1. Fully Automatic Microtome for variable specimen retraction and sectioning. Five digit digital display. 2. Two separate programmes for trimming and sectioning. Interval single, multi and continuous stroke. 3. Speed control through cutting window. 4. Section thickness setting from 1um to 99um in 1um increments. Cutting speed 0.430mm/sec 5. Section thickness from 0.5 um to 99um. 6. Three Sectioning modes – one manual and two motorized electronically controlled(continuous and separate) | 3 |
| PAT 22 | Slide warming table | 1. Rectangular histology slide warming table 2. With jet black top surface minimum 300 x 200mm. 3. Programmed and set temperature digital display. 4. Set values memory. | 5 |
| PAT 23 | Micro-slide cabinet | 1. Closed pack manner with vertical storage of 75x25 mm glass slides. 2. Steel cabinet with powder coating, paint finish. 3. Movable drawer in slots with lockable door 4. Capacity 10000 slides/ 30 drawers or 25000 slides/80 drawers | 13 |
| PAT 24 | Automated Immunoassay Analyzer | 1. Bench top analyzer with Built in thermal printer with facility for external printer. 2. Based on Enzyme linked fluorescent assay. 3. System must have at least 12 sample testing positions. 4. System should not have carry-over between samples and reagents. 5. The test device for one test should contain all the reagents required for that particular test. 6. System should be able to run, if required, a single test at a time. 7. Calibration stability should be minimum 14 days. 8. Controls and calibrators should be included in the test kit. 9. All the kit components should be stable up to expiry date of the kit. 10. The test menu should be more than 80 parameters. 11. No consumables required for daily start up, shut downs and periodic maintenances. 12. The test device should be bar-coded. | 3 |
| PAT 25 | Automated ELISA SYSTEM | 1. Should be CE Approved Fully Automated continuous access , walk away Micro plate System 2. Sample capacity at least 180/ Batch 3. Individual racks for sample loading (at least 12) should be provided. 4. Multi tasking system with simultaneous functioning of different processing steps. 5. System should have at least 4 micro plate at a time & 3 micro plates in archiving . 6. Up to 12 parameters per batch 7. System should have Clot detector 8. Original kit vial loading facility( direct loading of reagent vials irrespective of the manufacturer) 9. Singe probe system. 10. Should have Carbonized disposable tips for reagent dispensing& sample dispensing 11. System should have at least 280 positions for primary tubes 12. Should have automatic sample sensing & bar-coding 13. Sample dilutions should be up to 10000 14. 31 positions for reagents & 22 positions for calibrators required. 15. Signature/simultaneous multi reagent pipetting to ensure fast processing. 16. 8 Channel washer manifold. 17. Should have Independent micro plate transporter. 18. System should be 96 well Plate Reader with both bichromatic and monochromatic reading options. 19. At least 8 independent incubators with temp options from RT to 470C. 20. Should have a Bi-directional interface. 21. Start up time should be less than 2 minutes. 22. Option for performing individual modular functions e.g. washing, reading, incubation and sample addition. 23. Windows based operating system 24. 24 Hrs service support with toll free Number. 25. Should enclose list of installations in India. | 6 |
| PAT 26 | 5-Part Hematology Analyser | 1. Fully Automatic and compact hematology analyzer, 5-part differentiation of WBC. 2. Open vial sampling mode requiring maximum 20ul blood. 3. 23 + 4 parameters including RDW-SD. 4. Throughput: at least 60 samples/hour 5. At least 4 quality control programs and 60 files storage 6. Storage Capacity: 40,000 samples with data and graph 7. Technology: Laser scatter, Flow cytometry, Impedance. 8. Should have facility to analyse CBC, CBC + Diff mode. 9. Fully customized report formats including microscopic exam results 10. Automatic diluent dispensing for capillary samples. 11. Should have syringe based measurement technology. 12. Linearity range Performance   WBC: 0 - 99.99 x 109/L  RBC: 0 - 8.00 x 1012/L  HGB: 0-250 g/L  HCT: 0 - 67%  PLT: 0 - 1000   1. Reproducibility performance   WBC: ≤ 2.0%  RBC: ≤ 1.5%  HGB: ≤ 1.5%  MCV: ≤ 1.0%  PLT: ≤ 4.0%   1. There must be PC operation of the instrument. | 6 |
| PAT 27 | Binocular LED Microscope | 1. Optical system: Universal infinity corrected optical system, anti fungus. 2. Nosepiece: Revolving nosepiece 3. Coarse/fine focusing knob 4. Stage: Mechanical fixed stage (120 x 132 mm) with specimen holder 5. Eyepiece tube: binocular tube (30 degree inclination and 48 – 75 mm IPD) 6. Condenser: Abbe condenser with objective guide marking position. Factory fitted. Numerical Aperture: 1.25. 7. Eyepiece lens: 10x (anti-fungus), factory-fitted with wide field. 8. Objectives:    1. Plan Achromat 4x    2. Plan Achromat 10x    3. Plan Achromat 40x    4. Plan Achromat 100x 9. Illumination: LED illumination source Voltage: 100 – 240 Volts AC | 70 |
| PAT 28 | Binocular Research Microscope | 1. Optical system: Universal infinity corrected optical system, anti fungus 2. Nosepiece: Quadruple Revolving nosepiece 3. Co-axial Coarse/fine focusing knob 4. Stage: Mechanical fixed stage (120 x 132 mm) with specimen holder 5. Eyepiece tube: binocular tube (30 degree inclination and 48 – 75 mm IPD) Rotable 360 6. Condenser: Abbe condenser with objective guide marking position. Factory fitted. Numerical Aperture: 1.25. 7. Eyepiece lens: 10x (anti-fungus), factory-fitted with wide field zoom. 8. Objectives (Factory fitted) antifungal treated    1. Plan Achromat 4x    2. Plan Achromat 10x    3. Plan Achromat 40x    4. Plan Achromat 100x 9. Illumination: Halogen 12/20W illumination source 10. Voltage: 100 – 240 Volts AC 11. Mechanical parts to be of erosion free metal only. | 80 |
| PAT 29 | Research microscope with Epi-fluorescence attachment with microscopic digital camera | * Colour corrected infinite optical system ,Anti fungus * Microscope stand with coaxial focusing control knobs, upper stage drive stop. * Siedentopf type binocular/ trinoccualr eyepiece tube 30 o rotatable 360 * wide field eye piece 10x/18 mm with rubber shield(pair) * Quintuple revolving nose piece with click stop. * Objectives –   CCIS plan achromatic PL 4/NA0.13  CCIS plan achromatic phase Ph 10/NA0.25  CCIS plan achromatic Phase Ph 40/NA0.65 spring loaded  CCIS plan achromatic Phase Ph 100/NA0.1.25 spring loaded   * Phase contrast 5 position Turret Condensor for phase 10x,40x100x,BF & DF. * Centering telescope. * Sub-stage Illuminator 6v/30w helogen lamp. Power supply 100-240, CE * Epi-flourescent Attachment with filter cassette. * Lamp house HBO 100 W, Collector Lens * Mercury Lamp socket for HBO 100 W, Starter unit HBO 100W. * Lamp centering tool. * mercury lamp HG 100 W * High resolution Digital camera with ½”CMOP chip. * +USB 2.0 PC connection * Real time live image resolution 5.0 mega pixel. ,2580x1944 pixel. * 16 mm lens, Macro viewing tube, Calibration slide. * Microscope eyepieces adaptors (28mm,30mm,34mm,35mm) * Image soft ware :: instant image capturing, real time full screen image, programmed interval capturing, video capturing, All measurements in mico.,inch, mm, length, angle etc. * Faqcility for on line file sending. * Image assembly at high magnification. * Image capturing at multi focal depths.   Branded PCcomputor: Pentium I Core Chipset with 4 GB rams 300 GB HDD ,DVD writer with Graphic card and High Resolution 19”TFT Monitor with Key Board and Mouse  Mechanical parts to be of erosion free metal only. | 4 |
| PAT 30 | Fully Automated Random Access Chemitry Analyser | * + Random access fully automated , state of art technology with a through put minimum of 200 tests/hour.   + The system should have reusable reaction cuvettes. Sample Vol. 2 - 50µl/test. Reagent Vol. 250-500µl/test   + The system should be open type to use reagent of different manufacturers and should be able to use different reagents on the sample. The system should have internal vaccum pump, dynamic blanking facility single arm design for sample and reagent and minimum water consumtion.   + Machine should be run by external windows based PIV 1000MHz Microprocessor, ISO 9002 PC& printer. It should performa automatically all steps from sample intake to result reporting.   + System should have patient by patient processing and test processing mode with facility for urgent samples by interrupting the routine at any time.   + Machine should be user friendly and have easy maintenance   + Provision for stabilized power supply   + Auto cleaning & washing facility   + System should have temperature controlled measurement   + Training to be provided to the operator   + ISO certification for the machine/company. Machine should be CE/CB certified   + Light source 12V-20W   + Pipetting system Hamilton syringes, Valve blocks   + Reagent compartment : All positions can be assigned as R1 + R2     1. Reagent compartment cool approx 12C below ambient     2. Level detection & pre heated reagent needle with mixer     3. Reagent consumption 250µl   + Sampling Compartment     1. There should be continuous loading of primary tubes for all position     2. Sample probe with level detection and mixer     3. Positions for emergency samples, Blank calibrators for peadiatric sample with small sample cups & controls     4. Sample automatic rerun facility   + Prozone check for immunology calculation and cut off declaration, Programmable by the operator | 2 |
| PAT 31. | Automatic ESR Analyzer | * + Performs a complete sedimentation rate test in 15 min.,   + Through put: minimum 60 ESR Results per hour   + Test can be performed up to 24 hours from Blood Collection   + Random Access   + Should delivers excellent correlation with the manual Westergren method.   + On-board Sample Mixing   + Automatic Temperature Correction   + Closed tube sampling and testing   + Interface to laboratory information system.   + Automatically prints patient results.   + No reagent should be required. | 2 |
| PAT 32. | Research microscope pentahead | * + Optical system: infinity corrected system   + Focus: vertical stage movement 25 mm per coarse stroke, vertical stage movement 1 micron per fine stroke, stage rotation of 27deg.   + Illuminator: Builtin Koehler illumination for transmitting light, 12V 100W halogen bulb(pre-centered), light intensity adjustment centrally located so both hands can be used to increase and decrease light, Light preset switch for photography, Built in filters (LBD-IF,ND6NND25)   + Revolving nosepiece: Interchangeable reverse coded Quituple/ Sextuple Nose piece with click stop   + Objectives: Plan 4X, Plan Achromat Phase 10X/0.25WD 10.6, Plan Achromat 20X/0.4 WD 1.2(spring), Plan Flourite phase objective 40X/0.75(spring loaded) WD 0.51 & Plan semi Achromat 100X0   + Observation tube: Wide field Trinocular Head with Field no 22mm. stage ceramic coated co-axial stage with right hand low drive.   + Control condenser: Phase contrast / Darkfield condenser(NA 1.5)   + Teaching Attatchment : For 1+4 persons, head with eye piece of field no 22 LED arrow pointer (green and red)   + Fluorescence Attachment: Eight position coded filter unit with fly eye lens for even fluorescence illumination, 100W mercury Apochromatic Light illuminator , filter should be narrow band UV, Blue and green   + Digital camera: Cooled, colour, C-Mount CCD camera having large CCD size of 1/1.8” , with 12 bit A/D converter having 3.0Mpix or more resolution. Camera should have pixel size of 3.45um2. it should have frame rate of 17 frames/sec at 2080x1542 resolution, exposure time should be 30 us-180s. Digital camera should be suitable for bright field and fluorescence applications.   + Imaging system: Image analysis software for measurements , time lapse and software should be capable to drive the camera and the microscope parts with latest branded intel processor and chip set 4GB, DDR3 RAM, 1TB HD, DVD Writer, High graphic card with dedicate graphics memory , 20” TFT monitor with keyboard and mouse.   + LCD display for live presentation   + Appropriate table for microscope |  |
| PAT 33. | Digital Hemoglobinometer | Principle Colorimetric  Alkaline Haematin D-575 method  Light source  LED  Wavelength : 575nm  Path length : 10 nm  Sample Volume : 10µL  Measurement Range : 0-30 g/Dl  Analysis Time : Less than 5 seconds after user request  Memory : Up to 1000 result results with date  Absorbance Range : -0.05 to 2.00 Abs with resolution of 0.001  Display : Blue blacklit, 2x16 alphanumeric LCD  Interfaces : Connectivity to Printer or PC through RS-232  Operating Temperature : 10-500C  Operating Humidity : 15-85% related humidity  Power Requirements : AC-DC Adeptor:90-270 VAC, 50-60Hz, 5 V 500 mA output  Batteries: 3x 1.5V, Size A (Alkaline) |  |
| PAT 34 | Modular Tissue Embedding Station-(for Histopathology) | Nominal supply voltage:  220V/50Hz  110V/60Hz  Maximum power draw:  1000VA  Temperature range of paraffin  Ambient to 750C increment+/-10C  Capacity  Parafifn reservoir  Cassette /mold trays  4,5Lt  1,4Lt | 2 |
| PAT 35 | Digital Photographic Binocular microscope | Bulb 12V 35W Halogen Reflector  Binocular phototube 300/23 (100:0/0:100), reversed image,  Interference wide-band filter greem, Contrast-enhancing blue filter.  Mechnical stage 75X30R with hardcoat anodized surface  Objective “A-Plam “5x/0.12, 10x/0.25, 40x/0.65 Ph2, 100x/1.25Oil  Pinhole diaphragam, d=30mm  Condenser 0.9/ 1.25H,D,Ph 1, Ph2,Ph 3  Eyepiece E-PL 10x/22 Br.foc.  Microscope with HAL 35, FL-LED,5x Z-drive with fine drive knob left and fine drive disk ight, flat with scala-nosepiece 5x brightfield, M27-integrated 12VDC 50W power unit,  Stabilized 100..240 V AC/50..60Hz/110VA  Transmitted-light illumination with 4-position reflector turret for P&C modules and 2-position mount for LED modules  Upgradable to two co-observer  Epi-flurescence attachment  Phase contrast facility  White light LED Lamp 3W,warmlight or day light options  Polarization contrast attachment  TUV approved Microscope configuration  Dust cover G  Photographic Attachment with scientific software & latest computer system with high memory.  With scientific grade camera. | 2 |
| PAT36 | Fluorescent microscope for Malaria and FilariaTest | |  |  |  |  | | --- | --- | --- | --- | | Objective | Numerical Aperture | Working Distance(mm) | Field of View(mm) | | 20x,Dry | 0.40 | 1.82 | 0.84 | | 40x Dry | 0.65 | 0.51 | 0.44 | | 60x, Oil | 1.00 | 0.42 | 0.27 | | 100x, Oil | 1.25 | 0.36 | 0.16 |   Electrical Specifications-  (LED Light Source)  Input 4-24 VDC; 0.7-2.5 Amps  Center Positive DC Power Connector  Compliance EU MDD 93/42/EEC  (Power Pack)  Input 100-240 VAC: 47-63 Hz, 0.4A  Output 9 VDC, 1.4A  International Adapters Included  Compliance UL,CE  Light Specifications-  (LED Light Source)  Power 48 lm  Wavelength 410-511nm  Wavelength 410-480nm  General Specifications  Parfocal Length 45mm  Thread Type Standard RMS  (with 20x/40x 60x or 100x objectives in case)  (Complete Fluorescence System with Portability Pack) | 1 |
| PAT37 | Three part differential hematology analyzer | 1. System should have facility to report 20 parameters with three histograms. 2. The parameter given should beWBC, LYM%, MIX%, NEUT%, LYM#, MIX#,NEUT#, RBC, HGB,MCV,MCH, MCH,MCHW,RDW-SD/CV,PLT,PDW,MPV,P-LCR and three histograms for WBC, RBC &PLT. 3. System should have the separate Neutrophil counts in differential WBCs   count.   1. System should have the floating discriminator to differentiate between   Lymphocyte, Mix population and Neutrophils.  5-System should have the Hydrodynamic focusing DC detection method for RBC & platelet count.  6-System should have the Non-Cyanide hemoglabin analysis method for hemoglobin analysis.  7-System should have the measured HCT (Hematocrit) by the cumulative pulse height detecting method.  8-System should work on Sample Rotor Valve for precise samplig of blood.  9-System should have the speed of 60 samples/Hr.  10-System should have the facility of whole blood and Pre-diluted blood.  11-System should have the memory of least 20 samples with three histograms.  12-System should be supported by internal & external quality control program.  13.System should have a inbuilt help menu with touch screen operation.  14-It should have a inbuilt thermal printer and facility to interface with computer.  15-It should have Auto probe wiping facility for operator safety.  16-System should have the option for Cap Piercing.  17-It should have facility to enter the name of patient and lab or hospital.  18-It should be supported by well trained service team and should have minimum 100 installation with in Madhya Pradesh. | 3 |
| PAT38 | Electrolyte analyzer | 1. It should be fully automated Electrolytes analyzer. 2. Should be capable of measuring Sodium, Potassium and Chloride electrolytes from whole Blood, Serum, Plasms or urine. 3. Should be based on ISE technology. 4. The measuring range should be following for Blood and Urine   Na Blood 20-200 mmo1/L  Urine 25-1000 mmo1/L  K Blood 0.2-40 mmo1/L  Urine 1.0-500 mmo1/L  CI Blood 25-200mmo1/L  Urine 25-200mm01/L   1. System should have the sample volume for Whole blood and plasma is 100 ul and Prediluted urine samples is 400 ul. 2. System should measure results in not more then 60 secs. 3. It should have facility for automatic calibration. 4. It should have facility for stand by mode. 5. System should have only Yes & No buttons for the operation with on screen message for guidance through each step of analysis.   10.System should have automatic probe wiper.  11.System should have capillary and syringe sampling facility.  12.System should have the facility to be interface to an auto sampler.  13.System should be able to store results at least 100 patients.  14.System should have an inbuilt printer and a RS232 port for inerfacing | 2 |
| PAT39 | Paraffin wax dispensar | Main Power Supply Voltage MH8523B 230V-AC 50/60 Hz or  MH8523Bx1 115V-AC 50/60 Hz  Maximum Power 185 Watt max at 230V  Consumption 175 Watt max at 115V or less  Mains Power Cord and 3 core earthed/ground. 2 meters long. Moulded plug  Product fuse Rating 230V-F1.25A(IEC127)Quick Blow Fuse 20mm x 5mm Glass.  115V-F2.5A (IEC127) Quick Blow Fuse 20mm x 5mm Glass  Over Temperature Protection Over temperature protection from1050C non-resettable thermal  fuse.  Bath Capacity 4.5litres or more  Tap Swivel Lever non-drip with replaceable filter.  Case Construction Aluminium bath with PTFE coated interior. Stove enameled  Aluminium black/white exterior.  Black metal lid and polypropylene base.  Neon indicators Power on-clear  Bath heater-Amber  Tap Heater-Amber  Bath over temperature-Red  Control: Power On 2 position toggle switch labeled O/I  Bath Heater Rotary control labeled with graded temperature scale.  Tap Heater Control Two stage rotary control with arbitrary markings 1 to 4 and 5 to 10. | 1 |
| PAT40 | Deca Head Microscope (Total 10 Binocular heads) | |  |  |  | | --- | --- | --- | | Microscope frame | Optical system | U/S2 optical system | |  | Focus | Vertical stage movement:25 min stage stroke with coarse adjustment limit stopper. Torque adjustment for coarse adjustment knobs, stage mounting position variable, High sensitivity the focusing knob(minimum adjustment gradations: 1 µm) | |  | Illuminator | Built-in Koehler illumination for transmitted light, light preset switch, Light intensity LED indicator,  Built in filters  12V 100W halogen bulb(pre centered) | | Revolving nosepiece |  | Interchangeable reversed | | Observation tube | Wide field | Wide field ergo binocular | | Stage |  | Ceramic-coated coaxial stage with left or right hand low drive control :with rotating mechanism and torque adjustment mechanism, rubber grips available (Non stick grooved coaxial, plain, rotatable stages are also available) | | Condenser |  | -Achromatic Aplanatic (N.A. 1.4), for 10x-100x | | Ambient temperature | | 5 to 400C | | Supply Voltage fluctuations | | Not to exceed±10% of the normal voltage. | | 2 |
| PAT41 | Digital photo colorometer | High std .Glass Filters : 8 Filters or more  Minumum Volume : 1ml  Display : 2 1/2 Digit 7-Segment Red  : LED  Range : 400-700nm  Output:Abs :0-1.99  Resolution:Abs :0.01  Accuracy :0.5% FS± 1 Digit  Detector :Photocell/Diode  Filters :8-Filters:400,450,490,52,540,570,620,680nm.  Light Source :6.8 V, 300mA Tungsten Lamp  Power :230V±10% AC, 50Hz  Dimensions  (L x B x H) :195X235X105MM(Approx)  Accessories  Pathlength (A set of 2),  Operation Manual and Dust Cover | 2 |
| PAT42 | Monocular Microscope | 45 Deg. Inclined tube for comfortable viewing  -Eyepieces WF10x (1Nos.)  -Parfocal Achro-Objectives 4x, 40x, 100x Oil (SL Retractible)  -Rack & Pinion coarse focus system with safety stopper  -Fine focus by slow motion mechanism graduated 1div=0.002mm  -Plain square stage with attachable mechanical stage or other type  -Extremely efficient NA 1.25 condenser iris diaphragm moveable up & down  -Built-in 6v-20w halogen bulb light & variable intensity regulator  -Input 220-230v-AC 50Hx  Standard Accessories  One spare bulb, blue filter, 10ml 1mm, Oil, dust cover, Instruction manual, thermocal box packing. | 50 |
| PAT43 | Urine Analyser | Power requirements:  120V 50/60 Hz, 100 V 50/60 Hz, 220-240 V 50/60Hz  Ambient Operation:  180C to 300C (640Fto 860F)  Temperature Rate:  Ambient Operating Humidity rate:  20% t0 80% relative humidity  Compliance:  UL,CSA,CE  Thruoughput:  1Sample every 16 seconds  Printer :  External  Sample Handling  Racks:  Rack Capacity:  10 samples per rack  Sample Loading Capacity:  Up to 200 samples at one time (up to 20 racks)  Sample Tubes:  Lipless, 16 mm wide/95-104 mm length  Sample Volume:  Any volume from 2 Ml to maximum fill of tube  Pipette:  Precision impedance± 1 µL accuracy  Rinse Cycle:  Automatic pipette and SG well rinse between samples  Stat Sample Handling:  Can be inserted during run; 1 stat in stat holder or up to 10 stats in rack  Bar Codes:  Code 39, interleaved 2 or 5, Codabar, Code 128  On Board Computer  Memory:  1000Patient records plus 200 calibration/control records  Interfaces:  ASTM or mode to emulate 232  Display :  12 lines by 40 characters VGA display  Calibration | 2 |
| PAT44 | HbA1C measurement machine based on HPLC method | Sample volume :20µL whole blood or more.  -Automatic Sampling from a 15 or more position carousel  -Sample Cycle:5 minutes or more  -Data input-Icon driven touch-screen  -Data Output : By integral printer, the printout should show s a chromatogram.  So that result quality, retention time and the HbA1c result, can be checked.  -Prameters:HbA1c % presence of normal and abnormal hemoglobin’s should be seen on the printout.  -Flagging – for errors.  -Accessories-Barcode reader  Principle of HbA1c test should be based on HPLC method.  All necessary accessories with latest complete desktop computer software with patient reporting system with high memory and RAM. | 1 |
| PAT45 | Albumin Analyzer | System : System should consist of a specially designed analyser and specially  designed microcuvettes containing reagents in the dried form. The analyser should provide rapid,  simple and quantitative results for the purpose of screening, diagnosis, monitoring and supporting the  clinical evidence in the treatment of microalbuminuria.  • Measuring Range : 5-150 mg/L  • Measurement : Measurement at 610nm.  • Memory : Analyser should have a memory of 600 readings.  • PC Program : PC program for data transfer to PC  • Calibration : The system is factory calibrated against a turbidimetric method with a  calibrator traceable to CRM 470  • Analyzer is tested according to IEC 60601-1 and IEC 60601-1-2  • Manufacturer should have ISO 9001:2008 certification  • Analyser should be CLIA waived.  • Analyzer Complies with IVD Directive 98/79/EC  • Analyser should carry CE mark.  • Analyzer should be FDA certified  • Measuring Time : 90 seconds  • Sample Material : Spot Urine, overnight urine or 24 hour collection.  • Sample Volume : 18 μL  • Quality Control : Automatic electronic self test  • Interface : Serial port for one way data communication  • Operating Temperature : 15-30oC  • Storage Temp : Cuvettes 2-8 oC, Analyzer : 0-50 oC | 2 |
| PAT46 | Glucose Analyzer | • Method : The system should be factory calibrated according to wet chemistry glucose dehydrogenase method using hemolysis and deproteinisation.  • System: The system should consist of analyser with specially designed cuvettes containing dried reagents.  • Measuring Range : 0-400 mg/dl (can be extended upto 800 mg/dl by dilution).  • Measurement : Dual Wavelengths of 660 nm and 840nm for turbidity compensation  • Instrument is tested according to IEC 61010-1  • Should have ISO 9001:2008 certification  • Analyzer Complies with IVD Medical Device Directive 98/79/EC  • Analyzer should carry the CE mark / FDA Certification.  • Should be approved for the diagnosis of diabetes mellitus  • Measuring Time : 40-240 sec  • Sample Material : Capillary, Venous or Arterial whole blood  • Sample Volume : 5μL  • Memory : 600 results with date and time  • PC program : For data transfer to PC  • Calibration : Analyser should be factory calibrated  • Quality Control : Internal electronic self test  • Operating Temperature : 15-30oC  • Storage Temp :Cuvettes: 2-8 oC, Analyser: 0-50 oC  • Power :4AA Batteries (1.5V) or Power adapter | 1 |
| PAT47 | Hemoglobin Analyzer | • Method :Absorbance Method of whole blood at Hb/HbO2 Isobestic Point, based on Cuvette technology  • Measuring Range :0-25.6 g/dl  • Measurement :Dual Wavelengths of 506nm and 880nm for turbidity compensation  • Instrument is tested according to IEC 61010-1, Second Edition:2001 and EN 60601-1-2:2007  • Manufacturer should have ISO 9001:2008 certification  • Analyser should be CLIA waived.  • Analyzer Complies with IVD Medical Device Directive 98/79/EC  • Analyzer should be FDA Certified  • Measuring Time : ~10sec  • Correlation of Analyzer with ICSH reference method with r = 0.995  • Sample Material :Capillary, Venous or arterial blood  • Sample Volume :10 μL  • Calibration : The system should be factory calibrated and need no further calibration  • Quality Control :Built – in self test, 3 levels of liquids controls available  • Interface :RS232 (printer, PC)  • Working Temperature :10-40oC  • Storage Temp :Cuvettes: 10-40 oC, Analyzer : 0-50 oC  • Power :4AA Batteries (1.5V) or Power adapter  • Power Saver Mode : When operating on battery power, the analyser will automatically turn off after  five minutes of no use. | 2 |
| PAT48 | WBC Analyzer | Method : The white blood cell count should be determined by hemolyzation of red cells and color staining of white cells in the WBC microcuvette. An image should be taken of the stained white cells and the number of cells should be counted in the WBC analyzer.  • Calibration : System should be Factory calibrated and need no further calibration  • System should comply with IVD Medical Device Directive 98/79/EC  • Power Saver Mode : If the analyser is operating on battery power, but not being used, it should automatically turn off after approximately five minutes and if operating on AC power, it should turn off after approximately 2 hours.  • Measuring Range : 0.3-30.0x109/L (300-30000/mm3)  • Analyzer should be tested for electrical safety and EMC according to EN 61010-2-101:2002 Safety requirements for electrical equipment for measurement, control and laboratory use- Part 2-101:  Particular requirement for IVD medical equipment.  • Manufacturer should have ISO 9001:2008 certification  • Analyzer should be CE/FDA Certified  • Validation in clinical Laboratory : r2 = 0.995 compared with Cell Counter  • Measuring Time : 3 minutes  • Sample Material : Capillary or Venous (EDTA) whole blood  • Sample Volume : 10μL  • Interfaces : RS 232 (Printer)  • Quality Control : Built – in self test.  • Operating Temperature : 15-35oC  • Storage Temp : Cuvettes: 15-35 oC, Analyser: 0-50 oC  • Power : 6AA (1.5 V) Batteries or Power adapter | 1 |
| PAT49 | Blood Grouping and Cross Match | 1. Red cell serological (immunohaematological) semiautomatic system to perform the spin tube technique, and to read and evaluate the results automatically (electronically). 2. The instruments should automatically perform following functions: cellwashing, dispensing of reagent (AHG) Sensitized Red Cells (SRC),   read, print, and store the results and Data transfer to HIS/LIS   1. Principle of reading: photosedimentation and video picture analysis 2. No of cuvettes places should be min 24  |  |  | | --- | --- | | 1. Centrifuge Speed : max 3500 rpm ( 1300g) |  |  1. The   instrument should be able to perform all the immunohaematological   tests   such as:     - ABO/Rh typing     - Weak D testing  - Extended   phenotyping    - Antibody screening    - Antibody identification    - Compatibility testing -Immediate spin (IgM) & Cooomb’s phase for (IgG)  With differential interpretation of both stages.     - Titration   studies      - Quality Control for reagents   used in Red Cell Serology  Should be quoted with Consumable for Equipment   1. Neutral ACTuvettes 2. Coombs ACTuvettes 3. Blood grouping ACTuvettes | 1 |
| PAT50 | Immuno assay analyser(Chemi Luminescent analyser) | Fully Automated Random Access Immunoassay Analyzer based on Chemiluminescence technology.  -It should have minimum 15 reagents or more onboard capacity at any point of time so that min 15 tests/samples can be  of reagents so as to make it a true automation system.  -It should have true refrigeration on board (4-8degree C) to give better stability of reagents on board. performed at a time.  -There should be a facility of continuous loading  -Facility for Emergency/STAT samples should be available.  -It should have facility to load min 55 samples or more at one time with continuous loading facility.  -The throughput of this Analyser should be minimum 95 tests or more per hour.  -It should be supported with separate computer and should be capable of genearting patient chartable report.  -It should have real time QC software that provides real time statistical; analysis with Levey-Jenning charts with West Guard rules.  -It should be equipped with bar code reader facility for samples and reagents also.  -The samples should be directly placed in primary tubes  13x75, 13x100, 16x75 or 16x100mm tubes or 2 ml and 3ml cups.  -It should be able to perform following profiles:-  Thyroid Profile, Anemia Profile, Fertility Profile, Cardivascular  Profile, Adrenal/Pituitary Profile, Tumour Markers Profile Bone  Profile, Infectious Disease Profile, Blood Viruses, Diabetes,  -The mixing of reagent & samples and liquid sensing should be perferably with ultrasonication.  -The system should have real time clot detection facility.  UPS+Patient Reporting software and Laser Printer with latest complete desktop computer with high memory and RAM. | 1 |

PHARMACOLOGY

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| --- | --- | --- | --- |
| SN | Name of Equipment | Specification | Total |
| PHR1 | Power lab project:  Computer based fully automatic organ bath system for performing isolated tissue studies | |  |  | | --- | --- | | 1 FEATURES (Four channel acquisition System)  a) Input Channels | 1 SPECIFICATION (Four channel acquisition System)  It incorporates four input channels, 4 single ended or 4 differential pod and 4 single ended. It also features a built-in analog for stimulation or pulse generation (software controlled) and a trigger input. S | | b) Differential input supply voltage | ± 5V regulated for direct connection of powered transducers | |  |  | | d) Sampling Speed | Aggregate sampling speed of 400,000 sample per second | | e) Variable Sampling on every channel | Variable Sampling on every channel | | f) ADC Resolution | Should have at least 16 bit resolution. | | g) Amplification range | Must have range from ± 2mV to ± 10 V in 12 steps | | h) Data Communication | Through USB 2.0 Only. | | i) Low Pass filter & AC Coupling | 1 Hz to 1kHz in 2:5:10 steps (Software controlled only) | | j) Expansion Ports | It allows and signal conditioners to daisy chain through an expandable bus.  Independent Digital Input & Digital Output lines | | 2 FEATURES (Recording & Analysis software) | 2 SPECIFICATION (Recording & Analysis software) | | a) channels | Support for 32 channels with Variable Sampling speed on each channel. | | b) Export Ports | It Allow export Binary, Axon, IGOR, MATLAB, Quick time, Wav, PVAN Software, Text etc. | | c) Display Modes | Chart View, Scope View, XY View, Zoom View, Movie view and Spectrum View | | d) Channel Calculation ( This feature allows you to apply calculation to data channels online or offline) | Cycle measurements: - Rate, period, frequency, count, minimum, maximum, height, integral, variance, derivative, 1/3 Max + 2/3 Min, Unit Spikes at events.  Arithmetic:- Mathematically manipulate data in channels using algebraic, trigonometric, logarithmic, Logarithmic, noise & filtering functions.  Digital Function:- Select from six online or offline filter types: low-pass, high-pass, notch, narrow bend-pass and band-stop  Derivative:- Display the first and second derivative  Integral: - Measure areas under waveforms.  Smoothing:- Remove unwanted high frequencies and noise from a waveform. | | e) Specialized Analysis Software’s Modules (Facilitate both Online & Offline Feature for Analysis) | Dose Response Module:-  the dose Response Module Provides online or offline data extraction and analysis of in vivo and in vitro dose response experiments using chart.  . Tabulates the results automatically or manually  . Generates instantaneous hill curves  . Displays single or multiple response curved  . Calculates EC50 and Hill slopes  . Exports the result in XML and tab-delimited text  . Format for use in other applications & links displays in the table view, Analysis View and chart View  ECG Analysis:- The ECG Analysis Module automatically detects and reports the onset, amplitude and intervals of the PQRST complex either online or offline.  Also include tailored algorithms for mouse and rat ECG analysis  Blood Pressure Analysis, Heart Rate Variability  And other Specialized Analysis software modules for future upgrade. | | f) calculations | Arithmetic, Cycle Variables or Cycle Measurement, Derivative, Digital filter, integral, shift, smoothing. | | g) Free upgrades | Also provide 5 years of free software update & upgrade | | h) GLP Compliance | The system is GPL upgradeable and GPL compatibility and ability to record the of each channel and that of the respective amplifiers in the audit trail log in GPL mode. | | (3) Two Chamber compact profile & fully Automatic organ bath | | | a) All in one compact, Design (made of Perspex of glass) for conducting two isolated tissue studies in a controlled environment with no external glassware. | | | b) Model with Immersed chamber and Reservoir coil to ensure Temperature stability & the model design minimizes any artefact due to mechanical vibration. | | | c) Automatic Filling and Emptying of Organ bath chamber With a Help of push button (Electro – Valves) for individual chamber as well as for all chambers simultaneously. | | | d) Buttons or external logic signals should control either individual or simultaneous filling or z | | | e) Tissue chamber size should be available in 5, 10, 25, 50ml size. | | | (4) Bridge Amplifiers:- | | | Specification | Value | | Number of inputs | 4 (8-pin DIN) | | Input Configuration | Differential | | Amplification range | ± 200 µV to ± 5V full scale in 14 steps. | | Amplification accuracy | ± 0.5 (combined DAS with Amp) | | Maximum input voltage | ± 10V | | Low-pass filtering | 1 Hz to 2kHz in eight steps (software selectable) | | CMRR ( differential) | 10 dB at 50 Hz (typical) | | Zeroing circuitry | Software-controlled, either manual or automatic. | | Force Transducers:- Should have a range of 5mg to 25 wt with a resolution of ± 2mg using a 360 ohm strain gauge and should  have :- | | | Sensitivity (full range) | 30mV/V | | Displacement range | ± 0.45 mm | | Non linearity and hysteresis | <1 % | | Resonant Frequency | 140Hz (Typical) | | 2 |
| PHR 2 | Advance HPLC System | ADVANCED HPLC SYSTEM  Operating Principals : Parallel dual plunger pump, low pressure gradient, number of solvents: upto 4 solvents, Gradient Formation:4 – Channel mixing value, Composition precession : <0.1 5%,Composition Accuracy: <0.5%,Compressibility compensation: Automatic Operating Flow range: Analytical: 0.001 to 10.0 ml /min, Flow accuracy: < +/- 1% at 1 ml /min, flow rate precession: 0.1 % RSd at 1 ml/ min, operating pressure: 0- 6000 psi upto 5 ml/ min, Semi auto prime/ purge, safety & maintenance: leak detection, diagnostics, error detection.  MANUAL SAMPLE INJECTION WITH SWITCH  Injection loop : 5 ul and 20 ul, Aotu start : by position sensing ,type : six port flat injector with built in needle port.  VACCUM DEQASSER & MIXER  Number of channel :4 channel s, maximum flow rate : 10 ml/min per channel > 0 – 2.o ml/min per channel for 70% gas removed from methanol ,internal volume per channel : 925 ul per channel,  Materials in contact with solvent : Teflon AF ,PEEK.  DUAL WAVELENGTH UV/ VIS ABSORBANCE DETECTOR  Wavelength range : 190 – 900 nm, data collection up to 50 Hz , light source : Deuterium lamp & tungsten lamp , noise level :< ± 5 x 10 – 5 AU at 245 nm , dry cell, drift: < 1 x 10 -4 AU ? hr, bandwidth : 5.5 nm, wavelength accuracy : ±1 nm , wavelength precision :± 0.1 nm, linearity :> 99.5% at 2.5 AU (acetone, 254 nm),path length :10 mm (analytical cell)  OR  PHOTO DIODE ARRAY DETECTOR  Slit bandwidth :1.7 nm (std),no. Of PDA channel: 1024, pixel resolution : 0.9nm wavelength : 190 – 950 nm, analytical cell :path length :10 mm, pressure <1500psi ,volume : 13 ul , noise level :< ± 2 x 10 – 5 AU (empty cell, 1 sec rise time , 254nm),drift :± 2 x 10 – 4 AU/hr (baseline correction),0.001 AU/hr (room temp),wavelength accuracy :< 1nm (HY – 1 holmium oxide filter), GLP compliance : photometric accuracy , linearity, noise level, drift, system check.  HPLC PERFORMANCE KIT  Auto sampler  96 standard 2 ml vials (32x 12mm) or well plates (96 or 384 capacity , deep or shallow) can be used. Sample capacity : 2 micro well plates according to SBS standards, Sample capacity : 2 micro well plates according to SBS standards , loop volume : 1 – 5000 ul programmable , 10 ml loop , reproducibility : 10 RSD ≤ 0 . 3 % for full loop injections, 2) RSD ≤ 0 . 5 % for partial loopfill injections 3)RSD ≤ 1 . 0 for ul pickup injections carry – over :< 0.05% , RS232 control , cooling option: down to 4 degree centigrade.  COLUMN OVEN  Temperature range : 4 degree centigrade (cooling) – 90 degree centigrade, temperature stability: ± 0. 05 degree centigrade, temperature accuracy: ± 0. 5 degree centigrade, temperature programs : 40 steps, column capacity : analytical max 3 ea of 30 cm column (max OD 18 mm),heat up time : 16 min from 4 degree centigrade to 90 , cool down time :13 min from 90 to 4 degree centigrade , column switching: max two automatic 6 – port value .  FULLY SYSTEM CONTROLLED SOFTWARE  Window vista (32 byte) is available , special licence key (USB type), GLP & GMP compliance 21 CRF audit trial & LIMS Compliance , Compliance , multichannel & Multitasking , with leak sensor , ultra speed data processing (LAN) – Network , simultaneous data acquisition upto 4 system  MANDATORY PRE – INSTALLATION REQUIREMENT  ULTRA SONIC BATH  Capacity : 1.5 L , tank size : 240L x 135B x 65H(mm)  Solvent filtration kit  Solvent Filtration Assembly glass / SS , Nylon 66 membrane filter , vacuum pump for above model pci – 15 . i) Max flow – 15 LPM , Vacuum – 22” Hg(554 mm) , ii) Max pressure – 25 Psig , 1/20 HP  Sample Filtration Kit  Ø13 mm S . S Filter Holder , Rheodyne needle , 5 ml glass syringe ( Indian) , 5 ml gas tight syringe (Indian) , 5 ml gas tight syringe (Imported) Nylon 66 Membrane filter ,Ø 13 mm x 0.2u , (PK of 100 Nos)  RECOMMENDED ACCESSORIES  Computer System & printer; with latest configuration  USP (Uninterrupted power supply): minimum 3 KVA or above | 4 |
| PHR 3 | Noninvasive BP measurement assembly | Data LCD Display  For rodents & dogs  With separate noninvasive BP controller & pulse transducer / pressure cuff for mouse & rat  Push button start controller with pulse range selection for different animals  Data acquisition system (with statistical analysis) & software | 3 |
| PHR 4 | Cell lab Unit | One unit of each of the following apparatus / equipment:  1. HOT AIR OVEN  Inner chamber made of stainless steel sheet and outside mild steel duly stoved paint.  Temperature range from ambient to 250º C . fitted with L-shaped, prismatic thermometer fitted at front of the door. Temperature is controlled by thermostat with an accuracy of +/- 1º C. fitted with main switch pilot lamp, temperature controlling knob, perforated shelves and workable on 220/230 V AC mains plug & cord temperature upto 250C accuracy +/- 1C double walled, inner chamber of anodized/stainless steel sheet.  Inner chamber size – 350 x 350 x 350 mm (14” x 14” x 14”).  – digital temperature indicator cum controller and air circulating fan.  2. INCUBATORS (Bacteriological)  Thermostatically controlled by hydraulic thermostat ambient to 80C with sensitivity +/-1C. Beaded heating elements are placed in ribs at bottom and sides. Double walled inside stainless steel and outside mild steel sheet painted with attractive enamel. Door has double glasds viewing, built in horizontal L-shaped thermometer with perforated adjustable shelves, two pilot lamps. ON/OFF switches. To work on 220/230 Volts A.C,.  Inner chamber size- 350 x 350 x 350 mm (14” x 14” x 14”).  3. MELTING POINT APPRATUS  Aluminium block accepting 3 capillaries & a thermometer. Maximum temperature about 300C. works on 230V. AC single phase. The temp. can be regulated by boost heater and regulator. The samples are illuminated by and viewed through a magnifying lens.  4. HEATING MANTLES.  With ON/OFF switch.   1. 250 ml size, 150 watt. 2. 1 Lt. size, 300 watt.   5. ULTRA VIOLET FLUORESCENT CABINET  Dual wave length having filters fitted with separate low pressure mercury vapours tubes for short U V (254 nm) and long U V (365 nm) plus separate lamp for visible light.  6. DESSICATOR CABINET  Made of thick aluminium sheet with stout glass door & for general laboratory work, inner dimensions 30cm x 30cm x30cm, with aluminium frame.  7. HORIZONTAL LAMINAR FLOW  Size: 4’ x 2’ x 2’ size of Hepa filter —4’ x 2’ x 6’  - Stainless steel top, transparent front door (5mm size)  - Unit fitted with prefilter & one 2 x 40 W HEPA filter (0.03 Micron size)  - Fluorescent illumination.  - Built in germicidal UV light  - Cock for gas  - Height of working table should be comfortable In ‘Sit down’ working position for the operator.  - Recessed knee space  8. AUTOCLAVES  Outer Chamber made up to stainless stell (SS)  S.S Lid Radial locking  Size (Diam X depth ) 450X600 mm  Low water cut off device.  Pressure Control  Works on 220 V AC  9. MICROSCOPES WITH OIL IMMERSION LENS BINOCULAR  Laboratory microscope, tube length 160mm with smooth rack and pinion coarse adj. Graduated fine motion, with 2 huy. eyepiece 10x and 15x ( or 5x) achromatic objectives 10x, 45x (SL) and 100x Oil Immersion objective with imported lense mounted by us; built in graduated mechanical stage NA 1.25 condenser with iris with rack and pinion adj, filter plano concave reflacting mirror moving in gimbals with thermocol packing.  a)      With Indian superior quality lenses  b)      With imported lenses  c)      Plywood cabinet require with a & b at extra cost  10. ELECTROPHORESIS COMPLETE EQUIPMENT  a) paper Horizontal  b)Agarose Horizontal  Instrument should have power pack with arrangement of volts as wellas current (mA) and timer the apparatus should be of 12”x12”  a) With Indian Superior quality lenses  b)With imported lenses  11. ELISA READER WITH WASHER  i) Linear measurements upto 3,000 AU with 4 nos. filter from 405mm to 630mm.  ii) Instrument should have 2 line LCD system display and built in stabilized power supply.  iii) Reader should be supplied with external printer & should be PC compatible machine should be light weight use friendly.  iv) The system must have atleast 50 programmed memory & 20 test result memory.  v) The machine should have 96 wells.  12. BOD INCUBATOR  Double walled cabinet mounted on castor wheels  Inner chamber made of S.S. 304 & Outer chamber made of M. S. Powder coated.  Fill Length inner acrylic door permit inspection of specimens with out disturbing the temp.  Temp. Controlled by solid state Digital controllers housing all the control with PT – 100 sensor illumination light are provided for viewing with door limit switch.  C F C free hermetically sealed compressor provide temp. for below ambient condition  Air circulation fan for maintain temp. Uniformity through out the chamber  Flush fitting insulated double walled door.  The chamber is provided with modular removable shelves made of S.S for Complete flexibility in use  To work on 230 Volts 50Hz.  Validation Protocols:- IQ OQ & PQ Documentation with Calibration & Tradability certificate of controller  Safety Features : Built in temp Deviation Audio visual alarm. Safety thermostat for overshoot Temp. cut off system. HRC Fuses for compressor heater & main Time daily circuit for safety of compressor.  Special Care: A suitable K. V. A. stabilizer is strongly recommended.  This B. O. D. Incubator Size.  Inner Dimension W x D x H in cm 70x70x95cm  Capacity in LTR. 450  No. of Shelves 4  13. Co2 INCUBATOR  Shall be size 10 to 14 Cubic feet  Quotes on 2 units totaling 12 to 14 cuff acceptable  Water Jacketed  Double Doored  12 Shelves  Stainless steel interior and shells  Temperature Range : 5 Above ambient to 60 Degrees C  Temperature Control +/- 0.1 Degree C  Humidity Control  Infrared or Thermal Conductivity CO2 Control  Temperature CO2 and Humidity Digital Display  Over Temperature Control  14. AUTO PIPETTE WITH TIPS  (Variable & fixed volume) fixed:- 5µl, 10µl, 20µl, 50µl, 100µl, 200µl, 500µl, 1000µl, Variable:-5µl - 50µl  10µl - 100µl  100µl - 500µl  100µl - 1000µl | 1 |
| PHR 5 | Analytical balance Electronic digital single pan with tare system. | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Capacity | Minimum display | Pan size (mm) | Motor driven built in calibration weight | Calibration modes | Windows direct | | 220g | 0.1 mg | 80 dia | Yes | PSC Touch key with built in or external weight | yes | | 2 |
| PHR 6 | UV spectrophotometer | Double beam , wavelength range 190 – 1100 nm , Band pass – 2 nm , wavelength accuracy ± 0. 3 nm , wavelength repeatability ± 0.1 nm, Baseline flatness ± 0.002 A, Scan speed 10 to 3600 nm/ min , Photometric accuracy ± 0.004 A , Display backlight Graphical LCD. | 1 |
| PHR 7 | Starling’s long extension kymographs with time markers | Should be having superior metal gears accurate , mill cut ratio 40,10,2.5 & 0.625 mm per second, speed changte clutch with intermediate off position. Cylinder 6x11” with crown wheel engaging shaft. Turning by hand if necessary. Moving in slot in bed allowing variation in paper length for 60” to 66”. Rigid cast Iron stand which chould work up down by large screws with fine adjustment facility. To be supplied with accessories e.g., Double time maker, mercury manometer. Separate smoking varnishing apparatus and smoking Burner. | 3 |
| PHR 8 | Dual range semi micro balances Electronic digital single pan with tare system | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Capacity | Minimum Display | Pan size (mm) | Motor driven built in calibration weight | Calibration modes | Windows | | 120g/42g | 0.1 mg/0.01 mg | 80 dia | yes | PSC,Clock CAL Touch key with built in or external weight | Yes | | 1 |
| PHR 9 | Digital photoactometer (Activity cage) | With six photo cell for measuring spontaneous activity with digital totalizer and counter | 2 |
| PHR10 | Flame Phototmeter | Digital apparatus with filter (Na,k, and,Ca and Li) with dual channel single aspiration and 2.1/2 digit LED display. Final result should be in meq/L. To being supplied along with compressor and other accessories.- | 2 |
| PHR11 | Ultra pure Water Purification System | Type II water/standard, productivity 101/H, Water quality 1-15 mo-cm. Filter Type Pretreatment, Reverse Osmosis lon Exchange, feed water requirement PH: 3-10, TDS: lower than 500ppm, temp:4-350c, Pressure;1-5kg/ cm2,Turbility:1.0 NTU, Environment.  PE Tank 35 L  Superior imported Quality PE Tank suitable for the above unit with Complete Housing & Tubing Tank Capicity 35 litre, Tank sensor assembly. | 1 |
| PHR12 | Digital Plethysmometer With Auto Calibration | The digital Plethysmometer is a microcontrolled volume meter, specially designed for accurate measurement of the rat/mouse paw swelling   * butten touch auto calibration facility * Easy to use pedal switch * Evaluation of small volume differences * Comfortable reading LCD graphic display * Connectivity to PC * Two separate stands for holding the Perspex tubes * Cables and connectors * Surfactant solution bottle. * High resolution volume measurement: Resolution-0.01ml * Data entry for : Experiment numbers, Sequence numbers, Sex of Animals, Paw- left/right etc * Provided with digital pocket conductivity meter, microliter syringe, calibration probes. | 2 |
| PHR13 | Column Oven (HPLC) | The number of column: up to 3ea  Temperature: ambient:+4 degree-90degree C, column OD for 18 mm, 30cm length max, Compatible with Yl 9100 HPLC system. | 1 |
| PHR14 | Software package for automated analysis of rodent behavior | Software package for automated analysis of rodent behaviour in laboratory settings.  Features   * Motor and Locomotor activity * Anxiety:Open-field, Plus-maze, O maze, black and white box * Depression, Forced Swimming Test Tail- Suspension Test * Learning and Memory * Water maze, Redial maze, T-maze * Emergence test * Condition place preference * Predator odour avoidance * Fear conditioning | 1 |
| PHR15 | Computer Assisted Learning (CAL) software for Experimental Pharmacology | Software to simulate animal experiments in Pharmacology to demonstrate drug actions on different animal systems: should be active for at least 2 years   1. Effects of Drugs on the Rabbit’s Eye 2. Effects of Drugs on the Frog’s Heart 3. Effects of Drugs on the Frog’s Oesophagus 4. Bioassay of Histamine on the ileum of Guinea Pig   Effects of drugs on BP & heart rate of Dog | 2 |
| PHR16 | Autoclave Vertical | Inner Dimnesions (Dia x Height) 350x550 mm  Dimension of Basket (Dia x Height) 325x400mm  Capacity 50ltrs  Heater Load 3.0kw  Sterlizing Pressure 1.2kgf/cm2(15 psi)at 1210c  Pressure Gauge 0-2.1kgf/ cm2(30 psi)  Operating Pressure From 15 psi to 22 psi (adjustable)  Pressure control (OPTION) Piezostat (Pressure Control Switch)  Safety Device (Heater) (OPTION) Low water level cut-off for safety of heation element  Gasket Made of jointless slilcon Rubber  MOC (Pressure Vesset) Stainless Steel (SS-304)  MOC (External Wall) Stainless Steel (SS-304)  MOC (Top Lid) Stainless Steel (SS-304)  MOC (Basket) Stainless Steel (SS-304)  Power supply 220/230V, 50/60Hz | 1 |
| PHR17 | Centrifuge Refrigerator(Ultra) | 20,000 rpm, automatic digital monitor, digital timer, digital tempepature controller and indicator | 1 |
| PHR18 | Physiograph- automatic (multiple parameter) | 3 lead ECG with pacemaker and electrogurgery suppression  No. of channels – 3  Timer marker: Marking at o.5, 1, 2, 3, 5, 7, 10, 20, 30, 50, 100 per sec interval  Chart speed: 3 ranges with a range selector knob, 3 speed variations - total of 9 speeds  Sensitivity: with a range from 50 – 100 milli volts/ cm  Noise level: less than 1 uvV referred to input  Calibration; 1 mV, 100 mV  Main input: 220 volts, AC , 50 Hz  With standard accessories: earth lead, ink bottle, EP / EP lead, chart paper, fuse, capillary, steel wire and motor belt | 1 |
| PHR19 | Treadmill Test Machine | TMT specifications   * 2.5 HP Motorized treadmill; LCD Display with hand pulse program * Speed – 0-12 KM/H * Auto-incline * Belt: 15-20 / 45-50 inches * User weight: Max 120 kg   •Digital Signal Acquisition Module eliminates noise  •Distortion free ECG signal  •Disclosure of all 12 leads for beat-to-beat analysis  •Final report of Blood Pressure, Heart Rate, Treadmill Speed/Grade, ST Trends and recovery phase  •Time based METS calculation  •Treadmill Soft Stop option  •Customized Display Lead Sequence | 2 |
| PHR20 | Bicycle ergometer | |  |  | | --- | --- | | Workload range Independent rpm Lap time Load steps Time steps Load programs  Safety protection Automatic Load reduction Acoustic signal Manual  Check  Adjustments (height) - Saddle  - Handlebars  Accuracy of load  External Control  *Inputs*  *Outputs*  Power supply Power consumption  Safety Standard | 10-999 Watt  20-130 rpm 9h 59 min 59 sec 1-99 Watt 1-99 min  Manual 5 load/step PWC 170, 150, 130  Hr Steady state Interval  Heart rate Blood pressure S Blood pressure D ECG alarm signal By STOP button  Calibration  - Dynamic - Static  83 cm -  110 cm  68 cm -  108 cm  Free rotation  2% or 3 Watt   RS-232   Analogue control Start signal Heart rate Blood pressure S Blood pressure D ECG Alarm  Workload Pedaling speed Step marker  110-240 V, 50-60 Hz 100VA  Class 1, CE | | 2 |

PHYSIOLOGY

|  |  |  |  |
| --- | --- | --- | --- |
| S N | E Of EQUIPMENT | SPECIFICATIONS | TOTAL |
| PHY1 | Cardiopulmonary Exercise Testing System | 1. System should be compact and trolley mounted compromising of computerized Exercise Testing for on line measurement of Work Load, Ventilation, tidal volume, anaerobic threshold, METS, Oxygen consumption and VO2max , CO2 production, Respiratory exchange rate, Heart frequency, Respiratory rate, expiratory volume, Predicted load, PETO2, PET CO2, PaO2, PaCO2 etc. 2. Should have Barometric / Sample Pressure Transducers & Temperature Sensors for monitoring ambient conditions. 3. Should have facility for measurement of nutritional assessment, oxygen consumption at rest, resting energy expenditure, resting metabolic rate, basal metabolic rate in Kcal/day. 4. Should have body composition measurement by skin fold calipers, individual weight management programme based on energy balance equation (built in feature), standard measurement BMI, WHR etc. 5. Should be capable of doing sampling analysis of gases breath by breath and intra breath. 6. System should have light weight reusable bidirectional Pneumotachograph flow sensor should be insensitive to moisture preferably even without heating.   Measuring range – 0 to +/- 18 L/S, Resolution 10 ml, Accuracy < +/- 3 %  (Should meet criteria For ATS standard)   1. Should have fully automated gas calibration of the analyzer and sampling line with economic gas consumption. 2. Should have Individually configurable graphs for screen and reports including all Wassermann graphics 3. Should have full screen display of all Wassermann graphs to detect anaerobic threshold. 4. Should have Ergospirometry measurement with partial measurement flow/volume curve under load. 5. Should have fast response CO2 analyzer (Ultrasonic) with range 0 to 15%, resolution 0.01%, accuracy +/- 0.1% response time <90 msec. 6. Should have fast response O2 analyzer (Solid state oxygen) with measuring range 0-100%, resolution 0.01%, accuracy +/- 0.1%, response time <90 msec. where the cell replacement should be required after a min of 3 years. 7. System should have built in pulse-oximetery, blood gas analysis and cardiac output. 8. Cardioscope with rate meter for 12 lead ECG monitoring and beat to beat Heart rate variability. 9. System should be supplied with compatible Ergo Cycle or treadmill Ergometer for exercise testing which can be programmed through the ergo Spirometer software itself. 10. System should be CE marked and accordance with EN ISO 9001/12.2000 and EN ISO 13485/11.2000 11. Latest configuration PC with windows 7 professional along with 18” color monitor, color laser printer and suitable UPS. 12. Supply should include Calibration Gax mix cylinder – 1 No, calibration syringe – 1No, ergo mask – 2 Nos. 13. .   20. The system should be supplied with Bacteria Viral breathing filters, mouth pieces, nose clips and other accessories for 2/3 years operation | 1 |
| PHY2 | Complete Polysomnographic System For Sleep Disorders Study | * Should Have Following Channels:  1. EEG 2. EMG 3. EOG 4. ECG 5 Nasal/Oral Air Flow 6. Snoring. 7. SaO2   8. Respiratory Effort 9. Body Position 10. CPAP Pressure 11. Limb Movement 12. Pulse Rate   * System should be upgradeable to 4 bed on the same PC * Should have 32 referential channels and 12 bipolar channels * Should have additional 8 DC channels for external peripherals like- Capnography, pH, BP etc. * Should be possible to configure 32 referential channels for EOG, EEG & EMG as per requirement. * Should have integrated two pressure transducers : * To measure CPAP Pressure (facility to interface any make of CPAP with the system). * Facility to record nasal flow even without thermistor flow sensor. It should be possible to do flow   lamination study.   * Should have integrated pulse oximetery. * Should have integrated bedside and onscreen impedance check and self calibration. * Should have adjustable gain and notch filters. * Should have fully compressed raw data stored on all channels. * Should have ability for Re-referencing, Re-mortgaging and Re-filtering at any time during the study or after the study has been recorded. * Should have real time Access to studies for analysis currently being recorded from the review/recording station. * Should have LAN interface for data communication to PC. * Should have user-definable Montages and Montage changes. * Should have automatic sleep staging with manual override Respiratory Analysis /PLAM’s Analysis,   Neurological events.   * Should have independent, selectable time basis for upper and lower portion of the screen enabling to see   fast moving traces like EEG and Slow Respiratory Wave forms on the lower half.   * Should have Sleep Staging options for adult and pediatrics. * Latest configuration PC with windows 7 professional along with 18” color monitor, color laser printer and   suitable UPS.   * Sampling Rate : 1024 Hz * Sensitivity : 1 to 1500 µ V/mm and user definable. * Low pass filter : 0.1, 0.3, 0.5, 1, 3, 5, 7 Hz and user definable * High pass filter : 0.1, 0.3, 0.5, 2, 10, 15, 35, 70, 99 Hz and user definable * Notch Filter : 50/60 Hz * Input Impedance : > 10 M ohm * CMRR : >100 db   Noise level : < 0.3 µV RMS | 2 |
| PHY3 | Lister Perimeter | * Automatically records field to 90 degrees in all meridians. * The carrier mechanism must be smooth, silent and invisible. * Spring check giving an audible click to each 15degree of rotation of the arc in either direction. * The marker must be housed in a retractable tube. * Asset of interchangeable and permanent washable test object. * The object subtend an angle of 4degree, 2 degree, 1 degree, ½ degree, 1/4th degree and are in white, green, and red blue.   Supplies complete with transformer to work on 220 volt AC, Mains with 100 Charts. | 4 |
| PHY4 | Automated Peri-meter | Maximum temporal range 89 degree, Stimulus duration 200 ms, visual field testing distance 30 cm, Background illumination 31.5 ASB,  Threshold test library N-30, C-20, 24-2, 30-2, 10-2, Macujla 60-4, Nasal step  Threshold test strategy MOBS, ZEST, SITA Standard, SITA fast, full threshold, fastpac, SITA- SWAP  Screening test library C40, C 64, C76, C 80, C- Armaly, C20, N 30, 24-2, Peripheral test pattern  Screening test modes Age corrected, Threshold related, single intensity  Spatiality test library- social security disability, monocular, binocular, Superior 36, 64, Kinetic testing, Custom testing  Fixation control- Heijl/krakau blind spot monitor, video eye monitor, Gaze tracking, head tracking, vertex monitoring, Reote video eye monitor capability  Operator interphase- Frequency doubling, white -on – white, Red-on or blue-on-white, blue-on-yellow (SWAP)  General testing features- Stimulus sizes, Foveal threshold testing, pupil measurement  User defined storage software features- easy connect RCT, HFA-NET Pro | 2 |
| PHY5 | Apparatus for Passive Movement | Compact table top model designed for knee and hip joint flexion and mobilization with electronic control. | 3 |
| PHY6 | Student Class Room Projection Microscope | * Projection head replaceable which projects the slide view directly on microscope’s screen or project on wall. * It has separate Coarse & Fine Focusing knobs Mechanism * But it comes with Built in 24V-150W (220V works on mains) halogen lamp light source with variable light intensity controller and noiseless computer cooling fan inside the base body. * Plain stage 120 X 120 mm with two stage clips for holding the specimen slides. * 360° revolving Projection Doom with 150mm (6") screen fits on the eye piece tube. * Objectives combination: Achromatic Objectives :- 10x 20x (SL) and 40x (SL) * Projection Eye Piece :- 10x (Huygenian) * Total magnification: 100x to 200x and 400x * Complete microscope packed in export-worthy Styrofoam (thermocole) case and Supplied with dust cover, cleaning cloth, lens cleaning paper & operating manual in English   Detachable Mechanical stage, Imported 4x 10x 20x 40x 60x 100x objectives, extra DOME 4” (100mm) or 6”(150mm) screen, Map type hanging projection screen, projection white screen with tripod stand. | 2 |
| PHY7 | Projection Microscope | NAC. Code BDI  With 200mm diam. Graduated screen 360 degree rota table quadruple revolving nose   1. piece total magnification ranging 100X to 800X or 125X to 1000X.  Work able on 220 V AC main with variable light control arrangement to eye piece with stage micrometer slide for measuring optical combination built eye piece (10X, 15X) objective 5X, 10X,20X,40X.  Advanced research model incorporated with binocular head and pointer arrangement. | 1 |
| PHY8 | Class System for Neuroelectrophysiology  (EEG,EMG,NCV,&EP) | 1. Channels: four channels 2. Sensitivity: 0.1,0.2,0.5,1,2,5,10,20,50,00,200,500 µV/ div.; 1,2,5,10,20,mV/div 3. Highcut: 2 pole (12db/octav) filter. Selectable at 100,200,500 Hz; 1,2,5,10kHz 4. Lowcut : Selectable at 0.2,2,20,30,100,200,500Hz 5. Sweep Speeds (NCS&EP): 1 to 1000msc/div. in 19 steps (1,1.5,2,3,5,7.5,10,15,20,30,50,75,100,150,200,300,500,750,1000) 6. Sweep speeds(EMG): 2 to 500msec/div. in 13steps (2,4,6,10,20,30,50,75,100,150,200,300,500) 7. CMRR: >100DB 8. Input Impedance: >100 m Ohms (common mode) 9. Noise: <0.5µV (1 Hz to 10 kHz) 10. 14 bit digital converter 11. Average: no of averages per channel up to 9999 12. Electrical stimulator: Hand held constant current electric stimulator with stimulus intensity dial and stimulus trigger on handle. Save and Start /stop switches with independent control and electrical range of 0-100 m Amp with adjustable duration, intensity and repetitive rates. 13. Auditory stimulator:     * Type: Headphone     * Stimulus: Click (Rare, Comp, Alt), Pips.     * Frequency: 250-8000Hz     * Intensity: 0-110 db nHL or 30-140 db SPL.     * Presentation: Left, right, or both ears     * Click Duration: 100µs square wave clicks.     * Envelops: Linear, Gaucian, Blackman, Hanning     * White noise: Contra lateral masking from 0-80db nHL     * Rate: User definable   Visual stimulator:   * Video monitor: Monochrome VEP monitor for black and white or color with user programmable colors, pattern reversal check board stimulation, vertical bars, horizontal bars. * Square size: 2,3,4,5,7,8,9,11,13,16,21,32,64. * Flash Mode: must be available * Rate: User definable  1. Computer configuration:    * Monitor: 15’ color monitor LED    * Printer: Desk Jet or Laser Jet    * Computer: PC IBM compatible with core I -3 processor, 4 GB RAM, 320 GB Hard disc, 1 serial, 1 parallel, and 2USB ports    * Operating System: Windows 2008 or XP 2. EMG Adaptor: dimensions- 93(H)x346(W)x382(L) in mm. 3. EMG Cart:    * Dimensions – 745(H)x765(W)x465(L) in Dr. Mrs. M. Mehta    * Castors having locking management    * One pull out shelf for computer keyboard    * One pull out shelf for accessories    * One shelf for printer and P .C. tower   Mounting bracket for flexible arm EMG stand. | 1 |
| PHY9 | Autonomic Functions Test Unit with Electric Tilt Table | * High speed USB based four channel inputs with 24 bit resolution and should be capable of recording up to 400 KHz aggregate at with 32 channels of data with different sampling rates on separate channels. * Dual channel bio amplifiers and Constant-current isolated stimulator safe for human use with pulse duration between 50–200μs (software-selectable). * Free experiments and software updates. * The system should record and automate the analysis of six frontal plane ECGs (Lead I, II, III, aVR, aVL, aVF) and the vectorcardiogram with a vector loop (QRS) over the electrical axis. * Four channel balance board for studies of static posturographyIt should be capable of * performing fully automatic continuous blood pressure or brachial arterial pressure analysis with the help of blood pressure module also it should be capable of various automatic analysis for ECG, HRV, Cardiac output, Stroke Volume, Heart rate variability, Baroreflex Sensitivity, Total Peripheral Resistance, Total Arterial Compliance, dp/dT, Left Ventricular Ejection Time, Peak analysis, spike histogram etc for online & offline analysis. * The system should be supplied with cuffs in small and medium sizes, height correction unit, I/O cable, Interfacing to the computer recorder. Instrument accuracy should allow automatic zeroing and ideally be not more than 1% of full scale (< 0.5 mmHg). * Transducers & Accessories:- [Pulse Transducer](http://www.adinstruments.com/distributor/hardware/product_dws/MLT1010*D/), [Respiratory Belt Transducer](http://www.adinstruments.com/distributor/hardware/product_dws/MLT1132*D/), finger cuff transducers & [sphygmomanometer](http://www.adinstruments.com/distributor/hardware/product_dws/MLT1100*D/), [push button switch](http://www.adinstruments.com/distributor/hardware/product_dws/MLA92*D/), [Reusable ECG Electrodes](http://www.adinstruments.com/distributor/hardware/product_dws/MLA700/), [EEG Flat Electrodes](http://www.adinstruments.com/distributor/hardware/product_dws/MLAWBT9/), [Dry Earth Strap](http://www.adinstruments.com/distributor/hardware/product_dws/MLAYDG/), [Hand Dynamometer](http://www.adinstruments.com/distributor/hardware/product_dws/MLT003*D/), [Stimulating Bar Electrode](http://www.adinstruments.com/distributor/hardware/product_dws/MLADDF30/), [Cardio Microphone](http://www.adinstruments.com/distributor/hardware/product_dws/MLT201/), [Disposable ECG Electrodes (100 Pack)](http://www.adinstruments.com/distributor/hardware/product_dws/MLA1010/), [Abrasive Gel](http://www.adinstruments.com/distributor/hardware/product_dws/MLA1093B/), [Electrode Cream](http://www.adinstruments.com/distributor/hardware/product_dws/MLA1090/), [Electrode Paste](http://www.adinstruments.com/distributor/hardware/product_dws/MLA1095/) (3 pack), [Alcohol Swabs](http://www.adinstruments.com/distributor/hardware/product_dws/MLA1094/) (1000 pack), Teaching System Case, IR finger plethysmograph, Spirometry and Wireless Heart variability Kit. Temperature probe. * The bio-potentials signal conditioners, supplied must be approved to the IEC 60601-1 patient safety standard, making them safe for use with human subjects and the manufacturer must be ISO 9001:2008 or latest certified company & comply with safety standard and should have a world-wide installation & acceptance.   The system should be supplied with a Desktop Computer with 17” TFT, Core-2-Duo processor, 160 GB HDD, 2GB RAM, DVD RW, UPS & Printer.  Tilt table:   * Complete lying surface tilt table by electric motor from 0° to +85° controlled by hand switch. Time of electric tilt adjustment from min. to max.: 22 sec. * Height adjustment by electric motor from 590 mm to 900 mm controlled by foot switch. Movable with a Load capacity Patient weight: 180 kg. | 1 |
| PHY10 | PC Based Cardiac Autonomic Neuropathy  Analysis System (With all accessories and compatible printer) | Blood Pressure  Method : Oscillometric  Pressure Detection : Semiconductor sensor  Pressure Display Range : 0-240 mm Hg  Heart Rate Range : 30-240 bpm  ECG : Continuous ECG Waveform Test Method : Ewing’s battery of six testsconducted Sequentially/Major Parameter : Resting HR, E:I Ratio, 30:15 Ratio,Vasalva Ratio,Postural fall in Sys BP,Handgrip rise in Dia BP Database : MS Access Easy recall of any  previous test  Data acquisition : PC based  Channel : Blood Pressure, ECG  Sampling rate : 500 samples per sec  Resolution : 12 bit  Data Storage : Raw data on HDD  Interface : USB Port | 1 |
| PHY11 | Defibrillator | Defibrillator with monitor, recorder and battery back up | 2 |
| PHY12 | Vibratory Perception Threshold (VPT) analysis System | Vibration  Method : 100 Hz vibrations using pure sinusoidal  waveform  Voltage Display Range: 0 – 50V  Test Method: Sequential switching of indicator LEDs for each foot.  User prompted Readings an all locations sequentially  Database :MS Access Easy recall of any previous test.  Data Acquisition : PC based  Instrument : Digital storage of 12 readings.  PC Data storage : Digital storage on HDD.  Interface : RS232C Serial or USB  Results : PC based with interpretation  Readings : volts  Right Foot :Toe  First Metatarsal head  Third Metatarsal head  Fifth Metatarsal head  Instep  Heel  Left Foot : Toe  First Metatarsal head  Third Metatarsal head  Fifth Metatarsal head  Instep Heel | 1 |
| PHY13 | Anthropometric set (complete with all type of callipers | Height, Weight recorder, Calipers for measuring skin fold thicknesses.  Calipers for measuring head circumference waist circumference hip   Circumference and all accessories.  Accessories: Anthropometer Rod, Complete with scale and carrying bag for height measurement, Sliding Calliper (POECH type), Cubic Craniophore, With built in bone holder, Skin fold Calliper herpendent type, Skin Folder, Skin guide, Finger & palm printing pad, complete set | 2 |
| PHY14 | Benedict Roth’s Apparatus (BMR apparatus) | Benedict roth recording BMR spirometer: 6 Liter capacity spirometer has four speed electrical recording unit with gravity writing ink pen valves are easily accessible, soda lime container with screw connection in the center chamber . drains cocks to all the tubes and container sample cock for connecting the patients to spirometer or atmosphere, the unit is fitted on portable frame , complete with valves, tubes mouth piece, nose clip, ink writing pen ,and 50 charts. | 2 |
| PHY15 | Spectro-meter | Spectral  Range : 600 to 2500nm Bandwidth : 20nm Accuracy : +/- 0.5nm Repeatability : +/- 0.2nm  Photometric   Range : +/- 2.5Abs  Accuracy :+/-0.005Abs  Stray light : <1%T at 2300nm Light Source : Quartz Halogen Lamp Monochrometor : 300 lines/mm Concave Holographic Grating  Grating Drive : Continuous scanning stepper motor drive Detection : Two colour detector (Si-Pbs) Data Presentation:   Display : 12” VGA colour Monitor   Hard Copy : On printer Power Requirement : 230V +/- 10%,50Hz,Max.200VA Physical Dimensions  Size: 660X545X175 in mm  Weight: Approx.20Kg Accessories   With instrument : Cuvettes of 10mm pathlength & Transmission mode attachment   With printer | 1 |
| PHY16 | Ambulatory B.P. monitor | 1. Measurement method- Osciliometric 2. Parameters Diastolic & Systolic Pressure.  Mean arterial pressure and  Pulse rate. 3. Measurement range. 20-280mm Hg pressure 40-200  Pulses per minute. 4. Time for reading. Approx. 2 min. 5. Measurement intervals. User defined programmable  Protocol. 6. Automatic represurisation.   When cuff pressure is  Insufficient. 7. Automatic power off. Automatic power off  After 1 minute of non use to save  Energy. 8. Power Source 4 Nos. 1.5 V. size ‘AA’  Alkaline betteries. 9. Display LCD 6 digits with indication  For low battery. | 2 |
| PHY17 | Audio & Visual, GSR Bio feedback device | Display : 17 Light steps on screen (green 11,yellow 1,red 5),GSR balanced Value and also the changes in the GSR value in K-ohm is displayed on LCD panel meter SOUND: Melodic variation in 17 steps SENSITIVITY : 3 steps 2%,5%&10% POWER: 220 V AC, 50Hz DIMENSIONS: 420X210X125mm OUTPUT: provided for Recorder, Oscilloscope Computer etc. ACCESSORIES: Set of silver electrodes Headphones | 3 |
| PHY18 | Physiograph 3channel  Physiograph | Digital Student Physiograph III Chnl. (II+I) with Time & Event Channel and Stimulator. (9 speed chart drive)  Couplers : Strain Gage, Pulse/ Respiration,  Temperature, EKG, Bio Potential and Isotonic,  Transducers : Volume,Force (Muscle Activity), Pulse,  Respiration,Isotonic,Respiration Belt and Temperature.  Accessories : EKG Electrodes set, V Pin Junction Box,  Jelly, Straps, III pin Junction Box,EMG Leeds,EEG  paste,Spares like fuses,capillary,Electrodes for Action  Potential, Ink writing pen and Chart Paper Z fold 250 folds (10 packets) with Data Acquisition system (Digital Interface  to convert Physiograph recordings to a computer) and without computer | 11 |
| PHY19 | Demonstration Microscope | * Body: Must be designed 45° inclined stable coaxial body Observation head: dual monocular observation tube with coated and well collimated prisms. Tube inclined at 45° and 360° rotatable. * No sepiece: ball bearing quadrupple revolving nose piece with positive click stops. * Specimen stage: left hand side operated coaxial heavy duty mechanical stage (size 125 x 145 ) with low drive coaxial controls for easy and smooth scanning of specimen slide over a range of 50mm x 75mm. * Condenser: movable bright field abbe n.a 1.25 double lens condenser (superior quality) with iris diaphgragm and filter holder which can be move by rack and pinion knobs. * Focusing system: seperate coarse and fine focusing system * Light source: illumination fitted builtin base with 6v-20w halogen lamp with solid-state variable controlled transformer alongwith safety fuse. * Objectives: coated and antifungal-treated achromate size objectives: 4x/5x, 10x, 40x/45x (s.l), 100x oil (s.l). Our microscope’s objectives are well parafocalized to each other. * Eyepeices: strain-free and high eye point achromate w.f 10x coated eyepiece pair * Accessories: vinyl dust cover, duster, cleaning brush, spare bulb and fuse, reflector (mirror with arc) attachment for daylight use and operating instruction manual in english.   Packing: complete microscope packed in export. | 4 |
| PHY20 | Mannequin for clinical exam. & artificial respiration | This mannequin provides maximum student/instructor feedback in four practice mode: compression rate, compression depth, and Ventilation duration and ventilation volume. Red light indicates improper hand placement. The performance of each skill is displayed separately while averages are stored in the memory. With the flip of a switch, memory unit evaluates performance based on chilled or adult CPR standards.  The disposable tracheal airway and lower airway with lung bag eliminate time consuming disinfection procedures. Includes ten disposable airways, ten disposable tracheal airways, and five sanitary face mask | 1 |
| PHY21 | Manikins (Ladral Library) | Heart and lung sound can be heard simultaneously or separately., Sounds at correct Anatomical site. , 27 Heart sounds, 20 Bowel sounds 4 Carotid bruits.  Heart sounds at four Anatomical locations .  Breath sounds at eight Anatomical locations.  Breath sounds can be played on one side only for illustration of pneumothrox.  Bowel sounds at two anatomical locations.  Angle of louis identified as landmark.  Anatomical T-Shirt supplied with rib locations  Portable carry case with wheels & Handle .  The sounds Trainer allows teaching multiple students auscultation and recognition of over 40 normal and abnormal heart,breath and bowel sounds.  Lung sounds with Variable breathing rate 0-60 bpm .  Heart sound with variable heart rate ,normal and abnormal bowel sounds .  Includes : Four Auscultation Speakers, a connection cable and soft carry case. | 2 |
| PHY22 | Computerized Spirometer | Data transmission : Rs 232 interface to Pc through SeMA software.LCD display for graphical and numerical values. | 1 |
| PHY23 | Tone audiometry | Frequency Range: 250,500,1000,2000,3000,4000,6000,80000 Hz  Accuracy better than + - 3%,Hearing threshold  Range 0 to 90 db in 5db steps, | 1 |
| PHY24 | E.M.G. | With facilities for recording ,visual evoked potential auditory evoked .Soma to sensory evoked ,potential 04 channel input & processing | 1 |
| PHY25 | E.E.G. | 32 channel digital EEG portable modle with compatible laptop & software | 1 |
| PHY26 | impedence cardiometry | Continuous monitoring of user –defined hemodynamic parameters 12 high resolution color display,Non-invasive oscillometric blood pressure monitor rechargeable battery backup for 20 minutes of operation,connectivity to monitoring system | 1 |
| PHY27 | Audio-meter | Test frequencies: 500, 1000, 2000, 3000, 4000, 6000 Hrtz. 8000 Hrtz  Frequency accuracy: Crystal control less than 1% error at all frequencies.  Frequency sequence: Start either ear, 1000, 500, 1000 retest, 2000, 3000, 4000, 6000, 8000). Second ear, 500, 1000, 2000, 3000, 4000, 6000 and (8000).  Intensity range: from 0 dB to 90 dB Hearing level (HL) in 5 dB step.  Attenuator Linearity: less than 0.75 error for any 5 dB steps, less than 1 dB error for any 10 dB step, less than 2 dB accumulated error related to the calibration level.  Tone Rise/fall times 32 typical.  Test Paradigm: Modified Hugheson Westlake in the automatic mode with fully manual override capability.  Testing Time: On a cooperative individual or a biological simulator approx. 5 ½ minutes (testing 8 KHz).  Stimulus Characteristics:-  A-Pulse train in 1.2 sec. with 50 % duty cycle (200ms on and 200ms off) with three pulsed tone presentation.  B- Time between tone presentation is carried randomly between 1 and 2 sec.  C- Patient response window is 1.8 sec. from the beginning of the pulse train.  D- Pulse train terminates when response switch is depressed.  E- Failure to established threshold within allotted time.  Audiometer Calibration: All audiometer calibration parameters will meet ANSI S3.6 1996 Standard for Audiometers and OSHA 29 CFR 1910.95. Output levels are calibrated through secured keyboard entry.  Safety:- Listed to UL544 Standard for Medical and Dental equipment and CSA C22.2 No..125-M1954 Environment products/ Health care technology  Earphone:- TDH49 earphone with MX-41/AR cushions.  Power requirement:- 120 VAC, 60Hz. 32 VA | 2 |
| PHY28 | Ph meter | Range 0-14  Mv reading -1250 to 1250,solum temp.- 0 to 100`c,ambient temp.-40 to 70 `C Resolution accuracy ph reading 0.01 ph`  mv reading 1mv  solution temp 0.1C5 , ambient temp +/-2 C2 Analog to digital – ph /mv resolute 13bit Temperature resolute 10 bit.  Power Supply – 1. , Power supplied by IPod /I phone., consumption (operating) < 5ma3  Sensor, ph sensor connection BNC – F  Temperature ,, 2.5mm ,, sensor 30 KNTC 4 | 1 |
| PHY29 | Pulmonary Function Test Unit | |  |  | | --- | --- | | Body Plethysmography | The Fastest and most Accurate way to assess Body Plethysmography   * All-in-one Testing for Lung Volumes, Airways Resistance, Spirometry * Respiratory Mechanics (P0.1, Mip/Mep) * Large Cabin (873 liters) provides Comfort by maintaining High Sensitivity to Volume Changes * New High Accuracy Pneumotach * Complete Integration with all COSMED PFT/CPET Products * Provided with Compensation Chamber & TGV Calibrator for Research & Routine Quality Control | | Lung Volumes | Lung Volumes Module:   * Functional Residual Capacity (FRC) via multi-breath Nitrogen Wash-out and single-breath 100% O2 techniques * Lung distribution analysis (LCI, AMDN) * Affordable alternative to body plethysmography for lung volume measurement * Simplified ordinary maintenance and calibration procedures | | Lung Diffusing Capacity | Lung Diffusing Capacity Module:   * DLCO Single Breath (w/ Breath Hold) * DLCO Single Breath (Intrabreath) * DLCO 3eq (3 equations method) * Membrane Diffusing Capacity * Extremely fast infrared analyzers (CO, He based) * Lung volume measurement with DLCO single-breath dilution technique | | Respiratory Mechanics | Respiratory Mechanics Modules:   * Maximum Exp-Insp Pressure (Mip-Mep) * Respiratory Drive (PO.1) * Airway Resistance (ROCC/Rint) * Forced Oscillation (FOT) | | Metabolic / Calorimetry | Metabolic / Calorimetry Module:   * Pulmonary Gas Exchange (VO2, VCO2) * Anaerobic Threshold (AT) * Indirect Cardiac Output (Wasserman) * Integrated Pulse Oximeter (SpO2) * Integrated 12-lead ECG (GAS/ECG) * Exercise Gas Exchange with Elevated FiO2 * HR Interface w/ external ECG (TTL) | | 1 |
| PHY30 | Polygraph with digital output with printer and monitor. | (1) DC Amplifier with facility to record GSR  (2) AC Amplifier recording ECG, phonocardiography, pulse, and respiration  (Free channel with DC amplifier record from  strain gauze Transducer, pressured gauze transducer, volume transducer ,drop counters, one free channel to record time & stimulation markers .Electronic squire web & pulse stimulation for Galvanic & faradic stimulation one channel AC to record EMG. ) | 1 |
| PHY31 | Microscope with photographic equipment. | Technical Specifications of microscope with photographic equipment Applications-With the features of easy observation, intelligence and convenient operati-on, complete functions and economy, it is widely used in medical and sanitary establishments, academic demonstration and research, laboratories, institutes, colleges and universities   |  |  |  | | --- | --- | --- | | Digital Parts | Resolution | 5Megapixel | | Photo Resolution | 2560X1920-1600X1200 | | Video Resolution | 640X480 | | Sensor Size | 1/2.5 Inches | | LCD Screen | 8 Inches TFT Screen, Resolution is 800X 600 | | Video Output | AV Output (NTSC/PAL) | | Data Output | USB2.0 | | Menu Language | English | | Storage | SD Card Slot with Memory Cards (Maximal Storage Capacity is 4G) | | Scene Mode | Standard / Softness / Vivid | | Exposure Mode | Auto Exposure | | Date Mode | Year, Month, Day, Hour, Minute |  |  |  |  | | --- | --- | --- | | Optical Parts | Viewing Head | Compensation Free Binocular Head, Inclined 30° |  |  |  |  | | --- | --- | --- | |  | Eyepiece | Wide Field Eyepiece WF10×/ 16 | | Objective | Infinity Achromatic 4X/0.10,10X/0.25,40X/0.65(Sprin g),100X/1.25 (Spring,Oil) | | Nosepiece | Quadruple | | Stage | Double Layers Mechanical Stage 140mmX140mm ；Moving Range:75mmX50mm | | Focusing System | Coaxial Coarse/Fine Focus System with Tension Adjustable, Limit Stopper ,Range 24mm, Fine Division 0.002mm | | Illumination | 3.7V,3W LED Lamp, Brightness Adjustable | | Condenser | NA1.25 Abbe Condenser with Iris Diaphragm & Filter( Blue and Green ),Rack & Pinion Adjustment | | Parts  (must be ordered separately) | Eyepiece | High Point and Wide Field Eyepiece , WF16X/11mm | | Wide Field Eyepiece WF10X /20mm with a Reticle, Single Line, 10mm/100 Cross, Hair(0.1mm Micro-meter) | | Condenser | Dry    NA0.75/ Wet    NA1.25 | | Infinity Phase Contrast Unit | Centering Telescope | | Infinity Phase Contrast Plan Achromatic 10X,20X,40X,100X | | Simple Polarization Attachment | Polarizer (360°Rotatable ) | | Analyzer | | Illumination | 6V,20W Halogen Lamp, Brightness Adjustable | | 1 |
| PHY 32 | Echo cardiography machine -4D with color Doppler | Should have various scanning methods:   1. Electronic Linear 2. Electronic Convex 3. Phased Array Sector 4. Mechanical/annular Array upgradeable | 1 |
| The unit should be fully digital with at least 256 processing channels and DICOM compatible. |
| 15” High Resolution LCD Monitor with Flexible Support Arm. |
| The unit should have Pulse Wave Doppler. Comeliness ware Doppler |
| At least 3 active transducer ports and transducer holder. |
| All probes should be of Super High Density (for SHD scanning) & WITH DIGITAL Echo Boosters. |
| Minimum 3 electronic switch able independent B-mode frequently selection should be possible with all probes, All probes should be of Ultra Broad Band Technology. |
| The unit must have Tissue Harmonic Imaging as a standard package with 2 switch able independent THI frequencies with Convex Probe only. |
| Very High System Dynamic Range- upto 170dB or more should be available. |
| Frame Rate should be 300 or more frames per second (fps) |
| The unit should have simultaneous real time triples mode facility (b-mode/Color mode/ Doppler tracings. |
| Viewing of Dual Color Images (B/Color & B/Color) together should be possible in Real Time land post Freeze modes. |
| Simultaneous B+BDF (B/Color & B/W simultaneous) split screen Real Time imaging should be possible. |
| 2-3 Port should be available (upto 2 ports for Computer interface and Data Transfer). |
| Pre and Post Freeze ROI Digital Pan/Zoom upto 12x times should be available (read & write zoom) along with scrolling in all directions should be possible. |
| The unit must have cine loop facility for black & white and color images. |
| The unit should have B- mode Linear Image Steering. |
| Color Box Liner Steering should be available in all Color modes- Upto +/-30degrees. |
| Digital Motion Artifact Eliminator should be available. |
| Minimum detectable flow velocity should be upto 0.6cm/sec. |
| CD/DVD Drive-Built in with the system for storing of images. |
| Dual Hard Disk Storage facility- Built in with the system- each HDD at least 80GB or more. |
| USB ports for providing Data Transfer, Image/Data printer connectivity. |
| Automatic adjustment of Color Scale and Doppler range should be available in real time along with baseline shift. |
| Memory stick/pen drive facility for storing and recalling of B/W and Color Doppler images. |
| Workflow Editor for Carrying out routine exams by executing freely programmable protocols simply with the touch of a button. It also combines multiple operations in to single Keystrokes. |
| Thumbnail view of images stored in the HDD simultaneously while scanning should be |
| PHY33 | Ergometer | Accurate Ergometers for Testing, Training and Rehabilitation!   * Exclusive flywheel technology for accurate workload calibration * Full range of bikes for all healthcare and sport medicine applications * Solid and comfortable bikes * Some models equipped with PC software for remote control by PC products   Predefined and customisable training protocols | 1 |
| PHY34 | Arterial Stiffness and Cardiovascular Analysis System (With all accessories and compatible printer) | Blood Pressure  Method : Oscillometric  Pressure Detection : Semiconductor sensor  Pressure Display Range : 0-240 mm Hg  Heart Rate Range : 30-240 bpm  ECG : Continuous ECG Waveform  Sensing Method : Direct Contact 4 electrodes  Test Method : Fully automatic Oscillometric recording  on all limbs simultaneously  Database : MS Access Easy recall of any previous test  Data acquisition : PC based  Channel : Blood Pressure, ECG  Sampling rate : 200 samples per sec  Resolution : 12 bit  Data Storage : Raw data on HDD  Interface : USB Port  Major Parameters : Brachial Ankle PWV, Arterial Stiffness Index for each limb, Left & Right Ankle Brachial Indices, Est. Carotid Femoral PWV, Est. Central Aortic pressures, Augmentation Pressure, AIx, Vascular Age Wave forms : ECG Lead I ECG Lead Right Arm Left Arm BP Right Ankle BP  Left Ankle BP  Power Requirement : Voltage 230 VAC ± 10%, Frequency 50Hz | 1 |

PHYSIOTHERAPY

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| --- | --- | --- | --- |
| Sr No. | Name of Equipment | Specification | Total Qty. |
| PHT1 | Long Wave Diathermy | 1Mhz alternating current frequency, penetration up to 4 cm, ,solid state design, wavelength : 300mtrs, timer; 0-30 min, power: variable in 10 steps, digitally controlled, Mains: 230V AC, 50Hz, Weight: 3.5 Kgs, with all accessories –applicator, lotion bottle, carry bag, operating manual | 01 |
| PHT 2 | Pulsed Short wave Diathermy Unit | Adjustable intensity max. output 400 W., Pulsed pick power Max. 1000 W., Conveniently merged display, Advanced inductive electrodes with faraday screen, Adjustable treatment plan induction electrode, Electrode with three side converge of extremities for homogeneous induction, induction field, All standard accessories | 01 |
| PHT 3 | Multi Current Electro Therapy with integrated vacuum unit | Electrotherapy 2 & 4 poles, 2 channels completely, independent, Combine Therapy, Current – 24 current forms, TENS (with Han-Steam), NMES with Isoplanar Vector field surge and Intra pulse Interval Surge Symmetrical, Diadynamic current (CP-ISO,LP-ISO), IFT currents (2 and 4 poles dipole vector field) Diagnostic programs, Iontophoresis- Medium frequency rectangular current, CC and CV modes., Functionalities objective (18) and indication (95) protocols and 12 diagnostic Evidence based ,Safety Class I, Insulation type BF with standard accessories | 01 |
| PHT 4 | HI-TRAC, Lumbar-Cervical UNIT (Computerized, with bed) | Micro-computer controlled unit for Intermittent/Constant, Lumber-Cum-Cervical Traction is based on solid-state circuitry three sections, Fixed Height Bed with storage cabin underneath is an integral part of the unit. Technical Specification: Therapy Modes: 8 Traction Modes for either Lumber or Cervical Traction, in Progressive, Regressive Intermittent and Static etc. Memory/ Programmed : 30 Treatment Patterns can be programmed & Stored in non volatile memory. (24 Programs are stored and Six programs are free). \*Traction Force: Adjustable from 5 kg to 60 kg. Base Force: Adjustable from 0 kg to 54 kg. Traction Hold Time: Adjustable from 0 to 99 Sec. Base Traction Hold Time: Adjustable from 0 to 99 Sec. \*Treatment Time: Continuously adjustable from 0 to 99 minutes, with acoustic signal & automatic reduction of traction force. Displays: Digital display of Traction Force, Base Force, TF Hold Time BF Hold Time, Treatment Time & Graphical Display of Trac. Mode. Accessories: Adjustable Flexion Stool, Head-Halter, Pelvic & Thoracic Belts. Couch/Bed: Fixed Height-70mm, foam padded top is divided in Three sections. Head section has an adjustable incline. Auto-Tension: The set traction force is Adjustment automatically maintained throughout operation. Patient Safety: Patient Stop, hand held switch. Power Supply 220-240V | 01 |
| PHT 5 | Whirlpool Bath With Chair for Whirlpool Bath | Heavy gauge stainless steel tank sturdily fabricated and bright finished. Provides effective hydro-massage of arms, hips, legs, knees and feet. Mounted on heavy duty 10cm dia four ball bearing castors. Comes complete with removable inside aluminum Seat & Arm rest. Unit is fitted with a motorized turbine ejector and aerator on a spring loaded turbine elevator, digital thermometer, thermo state & immersion heater. Provided with drain pipe for emptying. Inside measurements of tank 90cm long x 50cm wide x 70cm deep. No plumbing required. Chair for Whirlpool : Used for arm and hand hydro massage. Revolving Seat is adjustable in height from 40cm to 55cm. Painted tubular steel construction, fitted with upholsteres seat and back | 01 |
| PHT 6 | Scanning Laser with hand held probe | Laser protection class IV, IEC protection class I type BF, Visible Beam 632 cm, High power Diode 808 Nm+ 915 nm, Effective Power 3200 mw, Emission continuous and pulse, Duty cycle 10–100 %, Frequency 10-20,000 Hz., Laser Energy 0-100 J., Rotation of scanning plan –450 / 900, Available protocols – preset and adjustable during treatment, Customized protocols – 80 files with 3 steps, 2 – Protective Goggles, 1- Main cables, 1 - operating manual, Hand Probe, Laser source – infrared diode GaAs 904 nm, Pulse width – 200 ns, Pick Power – 12 W., Frequency :5 – 10,000 Hz | 01 |
| PHT 7 | Semi-recumbent cycle | Step-through design, Self-powered, selfcharging, cordless capability – use it anywhere, 10 to 600 watt work rate ,range to accommodate a wide spectrum of patient profiles, Two resistance modes:- Constant Power (effort level control) for aerobic exercise – Iso kinetic (speedcontrol) for building strength, Five pre-programmed exercise profiles, 39 effort levels, 20 speed settings, heart rate monitoring - Polar®Telemetry or contact handgrip, Easy-to-use “Quick-Start” control panel – with large buttons, Large, easy-to-view LED display, Ergonomically correct for patients from 4'6" to 6'10" tall, and weighing up to 350 lb, Removable seat for wheelchair access Additional Features Include:- Large rotating seat with seat belt, armrests and grab handles - easier wheelchair transfers belt, armrests and handles provide added security, especially for patients with balance deficiency or palsy, Adjustable pedal cranks with standard pedals SPECIFICATIONS: - Dimensions: 70" l x 23" w x 49" h(58 x 178 x 124 cm)  Resistance: Constant Power (effort level control): 39 effort levels (5-watt increments from 10 to 100 watts, 10-watt increments from 110 to 300 watts) Isokinetic (speed control): 20 speed settings (increments of 5 deg/sec) Work Rate Range: 10 watts (25 rpm) to 600 watts (120 rpm) , Control Range: 25 to 120 deg/sec , Readouts: Time, RPM, watts, calories, METs, heart rate , Heart Rate Monitoring: Polar® Telemetry (chest strap) and contact handgrip system, Communication: FitLinxx ® compatible, CSAFE protocol for data export, Patient Capacity: 350 lb (159 kg), Weight: 160 lb (72 kg), Power: Self-powered; no external,power requirement at user work rates over 30 watts and 50 rpms; 115 VAC,adapter (230 VAC available) is provided to power system and charge, battery during applications below 30 watts and 50 rpms. Battery automatically recharges at work rates above 30 watts and 50 rpms, Certification: ETL listed , | 01 |
| PHT 8 | Upright bike | Resistance Range- 20 - 900 Watts, Modes of Operation - Constant Power, Bike Mode, Seat Adjustment- One-hand ratcheting seat height adjustment with proprietary design features a comfort groove and is shaped to conform to the user, Dimensions (l × w × h)- 48” × 22.5” × 64” (122 cm × 57 cm × 162.5 cm) Display- Graphic display of profile via 8 x 15 LED; Numeric display of time, distance, calories, calories/hour, METs, watts, RPM, and heart rate including multi-color indication of heart rate range.Lower display shows road speed and resistance level, Workouts- Quick Start, four Weight Loss, four Cardio, and Heart Rate Control; Quick Start is facility selectable as “Bike” mode or Constant Power; Weight Loss and Cardio workouts are constant power; Quick Start and Workouts have 21 levels, Heart Rate Monitoring- Contact Grips and Wireless, Connectivity- CSAFE (Fitlinxx Level 3 Pending), Max User Weight- 400 lbs (181 kg), Power- Self-powered, AC adapter for full time display, Compliance- ETL Listed to UL1647, ASTM, EN 957, CE Low Voltage Directive, FCC Class B | 01 |
| PHT 9 | Recumbent bike | Resistance Range- 20 - 900 Watts, Modes of Operation- Constant Power, Bike Mode, Seat Adjustment- Single handed adjustment from seated position, Dimensions (l × w × h)- 65” × 25” × 52” (165 cm × 63.5 cm × 132 cm), Display- Graphic display of profile via 8 x 15 LED; Numeric display of time, distance, calories, calories/hour, METs, watts, RPM, and heart rate including multi-color indication of heart rate range. Lower display shows road speed and resistance level, Workouts- Quick Start, four Weight Loss, four Cardio, and Heart Rate Control; Quick Start is facility selectable as “Bike” mode or Constant Power; Weight Loss and Cardio workouts are constant power; Quick Start and Workouts have 21 levels, Heart Rate Monitoring- Contact Grips and Wireless, Connectivity- CSAFE (Fitlinxx Level 3 Pending), Max User Weight- 400 lbs (181 kg),Power- Self-powered, AC adapter for full time display, Compliance- ETL Listed to UL1647, ASTM, EN 957, CE Low Voltage Directive, FCC Class B | 01 |
| PHT 10 | Gait trainer | High Resolution Color Touch-Screen LCD Display - easy to see and use, Audio and Visual Biofeedback - real-time biofeedback prompts patients into a proper gait pattern, Normative Data - for comparison to healthy  Populations, Objective Documentation - printed color reports track progress and document outcomes - ideal for insurance reimbursement, Patient Data Storage - maintains records to track progress and issue reports for up to 1000 patients , Data Export – serial interface allows download of patient data to computer for archiving, reporting or export as a CSV file Footfall Data Export - a versatile research tool that can work with standard PC programs, Open Platform- offers unobstructed use with unweighing systems (extended handrail options available), Heart Rate Monitoring  - chest strap telemetry and contact handgrip to ensure proper training intensity  SPECIFICATIONS: Dimensions: 86" l x 27" w (218 x 69 cm)Walking Area: 64" l x 20" w (160 x 51 cm),Printer Stand: 24" l x 24" w (61 x 61 cm),Deck: 1" thick (2.5 cm) reversible ,Teflon™ impregnated high density composite fiber, Motor: 2 HP with 4Q-Pulse Width , Modulation Control, Speed Range:  Forward: 0-10 mph (0-16.9 km/h), Reverse: 0-3 mph (0-4.8 km/h) in 0.1 mph (.16 km/h) increments, Gait Trainer Mode: Speed limited to 3 mph (4.8 km/h), Elevation: 0-15% Grade or -3 to 12% Grade, Heart Rate Monitoring: Polar® Telemetry (chest strap) and contact handgrip , Display: Color Touch-Screen, Printer: HP DeskJet, Power: 115 VAC, 50/60 Hz, 20 AMP, dedicated line, or 230 VAC, 50/60 Hz, 20 AMP dedicated line , Includes hospital grade plug with 12' (3.7 m) power cord, Patient Capacity: 400 lb (182 kg),Weight: 310 lb (140 kg), Certification: ETL and cETL listed to UL 2601-1, CAN/CSA C22.2 , No.: 601-1-M90 and EN60601-1. CE conformity to M.D.D. 93/42/EEC , | 01 |
| PHT 11 | Unweighing system | FEATURES: Dynamic suspension -allows for natural vertical displacement of center of gravity, Patented off-loading, mechanism – maintains constant force; simply dial in amount to off load, Single-point suspension -  permits functional pelvic rotation, Unobstructed open access - Offset design provides full access for easy patient interaction, Attachment rings – on support vest allow single or two-point pelvic stabilization when desired, Low-effort manual operation - no power cord, no weights, no air compressor Adjustable and removable patient handrails - accommodates diverse patient populations and allows for easy treadmill access, Universal Air Support Vest - fits a variety of patients, Adjustable height - can be assembled at reduced height for use in rooms with 8-foot ceilings , Adjustable suspension - accommodates children and adults, Therapist seats - provide a place to sit during assistive exercise and provides a safer environment for therapist interaction  SPECIFICATIONS: Dimensions: 36" w x 50" depth x 106" h (91 x 127 x 270 cm) accommodates patients from pediatric up to 6’11" (210 cm) on a standard treadmill; alternate height setting for facilities with low ceilings: 93.5" h (241 cm) accommodates patients from pediatric up to 6’2" (188 cm) on a standard treadmill , Vertical Adjustment: 60" (152 cm) , Unloading Weight Capacity: 180 lb (82 kg) , Patient Capacity: 360 lb (163 kg) , Power: 9V Battery , Certification: ETL and cETL listed to UL 2601-1, CAN/CSA C22.2 No.: 601-1-M90 and EN60601-1. CE conformity to M.D.D. 93/42/EEC , | 01 |
| PHT 12 | Hand Evaluation Set | Hand Evaluation Set 7 piece-Hydraulic Hand dynamo meter, pinch gauge, stainless steel fingers goniometer. 2-point discriminator with 3rd point, warten burg pinwheel, finger circumference gauge, and functional finger motion gauge. | 01 |
| PHT 13 | Algometer | To evaluate pain threshold, Probe should be around 1.5 cm2 with different level of pain threshold/pressure | 02 |
| PHT 14 | Electro Goniometer | Dual biaxial electro goniometer instrument designed for measurement of joint angle during movement. | 01 |
| PHT 15 | Universal Inclinometer | Measures range-of-motion of any body part. Set the moveable dial so that the weighted indicator points to zero move joint through its range and read dial. Goniometer w/clip and Goniometer w/headband, International standard | 01 |
| PHT 16 | Bubble inclinometer | Inclinometer standards codified in the AMA guide to the evaluation of permanent impairment to be measured: turn dial until scale reads 0: take joint through its range: read range traveled directly from dial, bubble inclinometer. International standard | 01 |
| PHT 17 | Upper extremity CPM | Option for elbow mobilization, hand held programme unit, robust metal construction, lightweight design for easy transport, frame construction for easy handling | 01 |
| PHT 18 | Pneumatic compression therapy system | Working pressure range : 20 ~ 200mmHg,Time range (Digital type) : 0 ~ 89minutes ,Display : Graphic LCD Compression modes : 4 modes ,Massage compression mode, Squeezing compression mode, Whole compression mode etc .Hold time range: 0 ~ 6 seconds, Interval time range: 0 ~ 19second 6 chamber-digital pressure gauge,3 operating modes., 1Arm cuff and 1 leg cuff standard, pressure range 25 to 200 mm Hg,time range 0 to 99 mins, pressing speed 0.8 RPM to 3 RPM, Pressure air sensor : Built in Speed control range: 1 level ~ 5 level, IEC standard : International standard ,Protection class : International standard | 01 |
| PHT 19 | Synthetics Bones & Skeleton set | Artificial skeletal system assembled. Synthetic skeletal system spinal column bones, upper limb bones, lower limb, Synthetic Joints models shoulder, elbow, wrist and hand,hip, knee and ankle joints | 02 |
| PHT 20 | Pneumatic compression therapy system | Working pressure range : 20 ~ 200mmHg,Time range (Digital type) : 0 ~ 89minutes ,Display : Graphic LCD Compression modes : 4 modes ,Massage compression mode, Squeezing compression mode, Whole compression mode etc .Hold time range: 0 ~ 6 seconds, Interval time range: 0 ~ 19second 6 chamber-digital pressure gauge,3 operating modes., 1Arm cuff and 1 leg cuff standard, pressure range 25 to 200 mm Hg, time range 0 to 99 mins, pressing speed 0.8 RPM to 3 RPM, Pressure air sensor : Built in Speed control range: 1 level ~ 5 level, IEC standard : International standard ,Protection class : International standard | 01 |
| PHT 21 | Cryotherapy Unit | 5 modes of operation & pre-programmable indication Menu Technical specifications- Voltage : 230V ± 10% 50/60Hz, 115V ± 10% 50/60Hz, Cooling circuit: closed circuit, Coolant, : R410A (1000), R404A (700) , Temperature insid: 700 l/min (Cryoflow 700) e the device : As low as –32°C, Maximum power: 1000 VA, Maximum airflow , 1000 l/min (Cryoflow 1000), Dimensions: (550 x 365 x 1050 mm), Weight: 85 kg, Classification : MPG class lI a, CE-mark : CE 0197 for conformity with Directives 93/42/EEC-MP | 01 |
| PHT 22 | Mannumed Special Traction Couch | Fully equipped for cervical and lumbar traction, rollable surface prevents friction to hip and legs during treatment, Free roll able table top section (that can be fixed when required), Fixation rails for belts and straps, Sitting and lying positions, Height adjustment (hydraulic or electric), Easy to move with retractable castors, Full and simple gas-spring supported adjustment of the head- or back-section, Comfortable padding, also at the side of the table top- Durable, hygienic and washable upholstery, Technical Specifications-Size tabletop (lxw): 203 x 67 cm for type 916 en 926,Size tabletop (lxw): 195 x 67 cm for type 004 ,Height adjustment: 45-95 cm for type 916 en 926,Fixed height: 83 cm for type 004, Lifting time (min.-max.): approximately 25 sec., Lifting capacity: 150 kg, Force hydraulic pump: 10.000 N, force electrical motor: 6.000 N,Power supply: 100/120/230V AC 50/60 Hz ,Current consumption: 1.0 A max. | 02 |
| PHT 23 | Mobile Stimulator with multiple currents | 2 channels for stimulation output independent intensity and parameter controls for each channel, multiple wave form on board, two pole IFC, 4 pole IFC, high voltage pulsed galvanic current (HVPGC), Micro currents, Russian, Trabert, Monophasic triangular , monophasic rectangular, diadynamic, VMS & TENS, user defined memory positions. | 01 |
| PHT 24 | Shortwave Diathermy Unit | Frequency 27.12 MHz, output maximum 500 watts, intensity adjustable in 5 steps, tuning manual with control knob, 30 minutes timer with auto cut, cooling with 10 cm dia. Instrumental fan, one pair of condenser pads with felt spacer and cover. Accessories : one pair condenser pad cables, one power main cable, one shortwave test tube, Velcro straps, spare fuses. | 03 |
| PHT 25 | Ultrasonic Therapy Unit | Dual frequency, 1 MHz & 3 MHz, Dual head, output mode pulse and continues, Digital output display. Treatment timer 1 to 60 minutes. | 04 |
| PHT 26 | Diagnostic Muscle Stimulator | Faradic & Galvanic current output. Interrupted Galvanic, pulse duration -0.01, 0.03, 0.1, 0.3, 1,3,10,30,100,300 m sec. Frequency 6,18,30 /min. 1,3,5,10,30,50, 100/sc. Surged faradic pulse of 0.6 m second duration. Faradic comprises of 80 pulse per sec. each pulse of 0.6 ms width. 2 pairs of Inactive and active electrodes, Ball tip electrode with handle, two pairs of electrode wires. | 02 |
| PHT 27 | Paraffin Wax bath Unit | Capacity 10/20 ltrs. Stainless steel sheet inner tank, thermo static temperature controller with LED display with 10 Kg’s of Wax. | 02 |
| PHT 28 | Multi Gym Exercise Apparatus | Multi stations for all upper &lower extremity strength training program, weight attachments and additional features like bench press, chest press, pull ups, abdominal & back exercises etc. | 01 |
| PHT 29 | Quadriceps Table | One pair chromated torque unit with different weight options - two sets of ½ kg, 1 kg, 2 kg, 3 kg weights. Well cushioned back support and seat | 03 |
| PHT 30 | Finger Griping Exerciser | Made with metallic frame and base, table top mounted. | 03 |
| PHT 31 | Exercise Table/Therapy Couch | Made by teak wooden frame and leg size L x W x H – 200 cm x 70 cm x 80 cm, Top 19 mm thickness ply, 4 inch cushioned with rexin cover legs cross section 8 x 10 cm. | 10 |
| PHT 32 | Exercise Mats | L x W – 6 ft. x 1.5 ft. with rexin cover | 06 |
| PHT 33 | Hand Splinting Kit | Cock up splint knuckle binder splint short and long opponence splint, carpal tunnel splint | 03 |
| PHT 34 | Medicine Ball Set | 1 set of 2,3,4, kg | 03 |
| PHT 35 | Standing Frame | Wooden with knee support, adequate straps, arm rest, inside well padded and adjustable height | 02 |
| PHT 36 | Transfer Boards | Length 4 ft. width 1 ft, thickness 1 inch, Made by teak wood bearing weight capacity around 100 kg. | 02 |
| PHT 37 | CP Chairs | 3 (Small, medium and large sizes) well padded, SS frame, wooden top, Adductor wedge. | 02 |
| PHT 38 | ADL Board (Functional) | Wall mountable, base made of wood, skeleton made by SS  Fittings- house hold utilities including tap, bolts, switches etc. | 02 |
| PHT 39 | Peg boards and games | Wooden made, colour full pieces of square rectangular, hexagon, cylindrical etc. | 02 |

P S M

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| *S.No.* | *Name of Equipment* | *Specification* | *Total* |
| 1. PSM1 | Autoclave | * Full view thick glass door tightly clamped to the gasket making the chamber leak proof * Inner Dimensions (Diax Height) 300x500mm * Dimension of Basket (Dia x Height) 275x 350mm) * Capacity 40 ltrs * Heater Load 2.0 KW * Gasker Made of Neoprene Rubber * Sterilizing Pressure 1.2 Kgf/cm (15psi) at 121OC * Pressure Gauge 0-2 1 Kgf/Cm2 (30psi) * Operating Pressure From 15 to 20 psi (Adjustable) * MOC (External Wall) Mild Steel Sheet * MOC (Top Lid) Mild Steel Plate lined with stainless steel from inside * Basket Made of Stainless steel * Power supply 220/230V AC, 50/60Hz | 6 |
| 1. PSM2 | Dissecting Microscope | * Round Base and with brass parts body * Square stage with clear glass and matted plate, slide holding clips * Focussing by rack and pinion, two hinged joint arm for eyepiece * 20x magnifying glass with hand rests, reflector mirror. | 117 |
| 1. PSM3 | Still for Distilled Water | * Output: 4 litres/hr, single distilled * pH: 5.0 - 6.5 * Conductivity, µScm-1: 3.0 - 4.0 * Resistivity, mOhm-cm: 0.25 - 0.3 * Temperature: 25 - 35°C * Pyrogen content \*: Pyrogen free * Water supply: 1 litre/min, 3 - 100psi, (20-700kPa) * Electricity supply: 220 or 240V, 50-60Hz, single phase * Power requirement: 3kW * Dimensions, (w x d x h): 500 x 150 x 450mm * Two independent safety thermostats * Pre-drilled stand | 6 |
| 1. PSM4 | Electric thermostat Incubator | * Digital temp. & humidity control Ambient + from 50cto 600c * Temperature Control accuracy + 0.50c of set point * Control type –Digital, auto, tune, temperature display, 3 ½ Digit LED, inner fall length acrylic door, input voltage: 230 volts AC ; 50HZ * Robust construction .outer cabinet made of m.s. sheet, duly pre treated &finished with epoxy powder coated paint for lasting finish. * Inner chamber made of highly polished stainless steel .it has provision for allowing wide range of shelf positions & spacing’s. * Stainless steel trays provided .chamber is duly insulated to minimize heat loss. two doors are provided. * Outer door insulated fitted with magnetic gasket for air tight closing for on temperature loss. Door provided with lock and key. Inner door made of unbreakable transparent acrylic glass empaneled in aluminum opening the door and with minimum temperature loss. * Temperature control:excellent and reliable solid state temperature controller cum indicator Digital display, range from 50cto 500c +/-0.50c hermetically sealed, high performance compressor work on environment friendly and CFC free refrigerant and PUF insulated to lower the inside chamber temperature. * Air circulated by a double shaft self-cooled blower to keep the tem. Uniform throughout the inner chamber .A safety thermostat is provided which switches off the heaters in the event of failure of the normal temp. Control system to protect the specimens from excessive. | 7 |
| 1. PSM5 | Extraction apparatus fat complete | Fat extractor operates on 115 volts 50/60Hz (Max) at 5.2 amps. It is shipped complete with power cord and grounded 3 wire plug. Standard features are as follows.   1. Main Power on-off non spark mercury switch 2. Full range variable heat control switch. Each switch controls two heats. 3. All stainless steel type-301 condenser assembly   Pressure relief values for each condenser. | 7 |
| 1. PSM6 | Deep Freezer | 200lt. Tem -15 o C to -25 o C | 6 |

PSYCHIATRY

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| --- | --- | --- | --- |
| SNo. | Name of equipment | Specification | total |
| PSY1 | Computerised Brief Pulse ECT Machine | Computerised Brief Pulse ECT Machine with Optical Motion  Senso EEG,EMG, ECG Monitoring should have following Technical Specifications :-   * ECT systems should be provide along with split AC to control Room Temperature * Should have constant current bi-directional square wave Brief Pulses. * Parameter display on LCD as well as on monitor screen. * Online calculation of heart rate. * Should be able to deliver ECT from voltage 50-400 volts. * Should have protection against paddle –to- paddles short circuit or pen circuit conditions. * Should have stimulus current 500-800 MA Frequency   20-120 Hz, PulseWidth 0.5-1.5 m.sec stimulation duration of 0.1-5.9 Sec.   * Minimum Power – 0.6 Joules for 220-ohm Patient Impedance. * Maximum Power 205.8 Joules for 220-ohm Patient Impedance. * Charge : 5.0 – 1152 mili cimlumba in both manual and timer Mode. * Should be provided with optical motion sensor for monitoring Motor Movement during seizure. * Should have provision of monitoring EEG, EMG, ECG,   Stimulus and Movement with optical sensor.   * Motion sensor for providing assessing seizures efficacy. * Should be provided with monitoring software to view physiological monitoring of up to 4 traces. The trace should be available in real time throughout the treatment. * Should have facility for the data to be stored with * All the treatment parameter on the PC Hard disc or can be transfer to CD. * Should have a comprehensive database to store the complete patient information and can be configured according to user needs. * Output should displays in joules as well as in mill coulombs. * ECT module can be used in stand – alone mode also. * System should have facility to record 1 to 24 channels Digital EEG data along with Brain * Mapping system. * System should have facility to record EEG/ECT data on CD and play Back without Addictions Software. System should have Topographic Brain Mapping with voltage, frequency and spectrum graph. * System should have facility to use EEG and ECT, Independently or simultaneously Split Screen facility for viewing channels or simultaneously   comparing three different EEG Montages at same time.   * Spo2 Pulse ox meter facility during ECT.   COMPUTER SECTION (HARDWARE)   * CPU - Dual Core -1.8, 1 GB RAM, 360 HDD, DVD Writer. * Monitor 18”TFT , Printer Laser Color Printer , * Operating System: Window XP installed. Keyboard, Mouse, Mouse Pad.   System should have following accessories:-   * Spring loaded ECT Headband, Instruction Manual, EEG,   EMG & ECG Electrodes, OSM sensor, Bite Block,  Earthing wire, Conductive Jelly, Paper Rim (A4 Size),  Rubber Strap Electrodes, EEG Gold Plated  Electrodes. Spo2 probe   * Company Should have official Local service Centre * System should be provided along with two ton split   AC to control room temperature | 3 |
| PSY 2 | EEG Machine | Windows based 32 channels digital EEG with Pentium PC and Laser Color Printer.  Software : Featuring with Brain Mapping  User definable montages  Scrolling facility, test review, filter selection, network enabled.   * 32 channel acquisition comprising at 24 EEG and at least 5 bipolar, Channels also unable as EEG and 03 DC / Transducer channels. * Raw data storage for reformatting of sweep, speed, filters and montages during analysis. * Choice of multiple reference for brain mapping i.e. Car A1, A2 unked ear, C2. * Facility to view analysis and acquisition of same time. * High performance machine is capable of taking record in ICU condition. * Unlimited continuous storage depends upon hard disk capacity. * Facility to achieve data on CD * Facility to measure amplitude and time duration. * Unlimited montage formation can be possible. * Facility for auto searching of events and comments. * Facility to mark and delete events in analysis. * User definable events with user definable hot keys. * Facility of reporting in MS word (Ms office software option) * Facility to store pre define comments with user definable hot keys. * Different modes of going to any part of EEG i.e.   a. Page forward and backward  b. Auto FWD & BWD  c. Event to event jump.  d. Search bar.   * User editable photic sets with frequencies ranging from 1 to 30 Hz. * Optical isolation of head box to electrically isolate patient from data system can be provide. * Compatible with Windows 98 and windows millennium. * Fully compatible with Celeron Pentium - P - III, Pentium - IV and (Hardware). * CSA/DSA facility should be provided. * User has facility to make its own LF & HF filter. * A/D conversion 14 bit in hardware. * Sampling rate 1024 Hz/ Channel with resolution enhancement to 16 digital signal processing. * Storage rate 256 Hz. Channel with resolution enhancement to 16 bits by signal processing. * Noise level < 1 u Mohm (0.1 to 1000 Hz) * Input impendence > 10 M ohm (0) to 100 Hz) * Acquisition method raw data with full sensitivity and full bandwidth. * Sensitivity / LF / HF / Notch / Muscle Rej / Montage implemented in a only for display / Printouts. * Sensitivity 1 to 1000 u v / mm. * Lf (Hz) 0.1, 0.3, 0.5, 1.0, 3.0, 5.0 Hz and user definable (0 to 7 Hz) pole. * Muscle Rej. ON / 00, 30 Hz double pole.   Hardware : Head box, Photic stimulator with adjustable stand  Accessories : Re-usable patient leads, EEG, Jelly, PC Cable etc. | 1 |
| PSY 3 | Lithium analyser | Lithium analyser can be use to measure serum lithium.  Space for operation :  Cabin beside the HOD chambers  Necessary technical staff :  Machine will be operate by psychiatrists  Specification :  01. Compact design  02. High performance and accuracy  03. Easy operation  04. Direct printer connectivity | 1 |
| PSY 4 | Biofeedback machine | Biofeedback apparatus should be able to record following parameters:  Pulse-1  GSR-1  Temperature-1  EEG-1  EMG-1  Respiratory-1  Biofeedback Printer-1  Parameters relax - I relax II  Biofeedback instruments should be compact in size and through its ergonomically designed front panel facilitates ease of operation. Each biofeedback instrument converts patient physiological changes (GSR, Pulse rate, temperature, EEG & EMG) into audio as well as visual signals which helps the patient performs self control or autogenic training leading to relaxation.  Relax - I  GSR  INPUT : Through two silver - chloride electrodes, one connected to the sweat glands and the other to any inactive point forming the reference.  GSR balance Range : 0 to 1999 K Ohms  Display : Visual LED bar in 21 steps (Green 10 steps, yellow 1 step, Red 10 steps) each steps changed by deviation of 10%, 5% or 1% (switch selectable) from the mean GSR value.  Actual change in GSR value in K ohms is also displayed on a digital panel meter.  TEMPERATURE  INPUT : Through a surface temperature probe.  Temperature Balance Range : 200C to 400C | Pulse-2  GSR-4  Temperature-2  EEG-2  EMG-4  Respiratory-2  Biofeedback Printer-2  Parameters relax - 2 relax II |
| PSY 5 | Alcohol Breath analyzer | Alcohol breath analyzer should be a digital detector which is accurate and easy to use.  Space for Operation :  Available  Necessary Technical staff :  Test will be done by Psychiatrist  Breathalyzer specifications :  Should display the breath alcohol concentration as a 3 digit readout in mg/l and easy to use.  Indication of BrA/c 0.00 to 2.00 mg/litre % BrAC  Warm up time Below 20 seconds  Response time within 3 seconds  Auto adjust / reset, with rest button  Automatic switch off after 30 sec.  Recycle time 10 Seconds  Mouth piece 5 x washable mouth piece  Sensor semiconductor oxide sensor  Continuous using time  Without battery  Over 200 test  Replacement  Power supply - DC  Dimensions (mm) should be compact. | 2 |
| PSY 6 | Repetive Transcranial Magnetic Stimulator(rTMS) | Repetivie Transcranial Magnetic Stimulator should have  following technical specifications & features:-  Technical Specifications  - Pulse Type : Bi-phasic (Full Sine)  - Pulse width : 320us  - Pulse modes : Single & Repetitive  - Repetition rate : 30 pps  - Output energy range : 20%-100%  - Max.Initial dB/dt (coil surface) : 32-36 Kilo tesla  - Operating supply : 230V +/- 10% 50/60Hz  - Maximum Power Consumption : 2200VA  - Standby Power Consumption : 90VA  - Should have Computer configuration Dual core 1.8Ghz, 1 GB  Ram, 320GB HDD, DVD R/W, 17” LCD Monitor windows  supporting Inkjet Laser Color Printer  Integrated colored screen display stimulus parameter.   * rTMS to be supplied with one double 70 mm air cool coiled, coils stand holder and air compressive unit.   - Repetitive, single and Inhibitory treatment modes available.  - Supplied with two stimulating coils of or Figure of 8  - Inbuilt sample protocols for Psychiatric Disorders.  - User configurable protocols.  - Inbuilt continuous core temperature monitoring for safe  operation.  - Internal memory for storage of user defined protocols.  - Real-time MEP monitoring software.  - External trigger and USB interface for MEP monitoring.  - Comprehensive patient database storage in PC for MEP  monitoring.  - Automatic analysis and monitoring of fault conditions.  - Complete unit available on a movable cart.  - Multi-axis trolley mounted stand for easy positioning of  stimulating coil.  *Repetitive transcraninal magnetic stimulator systems should be provide along with split AC to control Room Temperature* | 2 |
| PSY 7 | Aversion therapy Apparatus | * Aversion therapy equipment is an instrument used to retrieve the addicts of alcohol, smoking, drugs ets.   Features-   * Aversion therapy apparatus is a device which * Produces adjustable painful of electrical pain stimuli, the response * Of irritation occurring to small taste/sight of the addictive is produced.   Specifications-   * Variable form 0-500V * Multiplier in 3 steps. * Single unit with treatment in single shot. | 4 |
| PSY 8 | Multi behavior therapy | It is combination of sex therapy, Electro sleep, brain polarizer and aversion therapy in a single unit i.e. four in one with auto cut off timer for treatment.   * All parameters can be used simultaneously * Brain polarizer useful in patient suffering from depression. * Aversion therapy used for de-addiction. * Should have gold plated electrodes. * MBT console should be fitted in fiber plastic cabinet. * Should have a set of round shape electrode, electro sleep electrode, aversion therapy, brain polarizer electrode, jelly and carry bag. | 4 |
| PSY 9 | Digital Electro Sleep | * Should have facility to treat two patients simultaneously * It should be based on samlac therapy * Stimulus intensity range should be 0 to 30 v and displayed on LCD * Audio stimulus with electric impulses * Power supply 220 V AC-50Hz * Stimulus should be digitally controlled * Audio stimulation with electric stimulation * Should two set of electrodes headphone, jelly & dust cover. | 2 |
| PSY 10 | Polysomnography system for sleep disorders study | * A complete 32 channel (or more) polysomnography system with transmission of data in real time to the computer. Wireless transmission should allow transfer of data over a distance of up to 100 meter. * Should have channels for electroencephalogram (EEG) electrocardiogram(ECG) electrooculogram (EOG) leg electromyogram(EMG), periodic leg movements, oro-nasal airflow by both thermistor and pressure transducer, snoring detection, thoracic and abdominal respiratory efforts, oesophageal pressure, body position, continuous pulse oximetry, capnography and cpap pressure, (A-CPAP) to be provided. * Should include an camer for continous synchroniszed video recording * Should have an in-built software for both automated and manual analysis and scoring of recorded data. Automated analysis should permit scoring of apnoea, hypopnoea, desturations, sleep stages, hypnogram, arousals, micro-aousals, arrhythmia analysis, pulse transit time, and periodic leg movements. Real-time access to data while the study is in progress should be possible. Should be AASM 2007 complaint. * Should have automated, operator configurable report generation facility. * Should permit storage of uncompressed raw data for future review and re-analysis. * Should permit writing of data on storage media such as CD/DVD for review on any computer without the need for a reading programme. * Should be provided preferably with a composite integrated universal titration device having capability of titrating OSA, overlap syndrome(OSA+COPD), OHS (obesity hypo-ventilation syndrome) and CSR (Cheyne-strokes respiration) patients. * Facility for split night reporting should be available. * The company must provide upgradable software till next five years free of cost. * Adequate Quantity of spares such as electrodes, leads. Oxygen Saturation probes, EEG jelly, snoring canula should be supplied with the system. One extra set of oximeter probe, ECG electrodes, Sensor belts and thermistor airflow sensor should be provided * The equipment should ISO/European CE Certified product.   Computer should have following specification:   * Intel 3rd generation i7 or higher processor with compatible intel motherboard . ITB HDD, 8 GB RAM, 22” TFT monitor, DVD R/W, mouse LAN Card 4 or more USB Ports, Licensed windows 7 or higher and antivirus software & colur inkjet printer | 2 |
| PSY 11 | Psychometric tools | Following psychological tests are required :  A. Personality Test :  01. Rorschach test with manual (Exiner's system)  02. 16PF Test : Farm A, B, C and D with manual  B. Intelligence Tests :  01. Wechsler Adult intelligence scale-R (Indian Adaptation) with manual.  02. Wechsler children intelligence scale-R (Indian Adaptation) with manual.  03. Raven's progressive color matrices with manual.  04. Senguin form board with manual.  C. Cognitive Test :  01. AIIMS Battery of Neuro cognitive assessment with manual. | 4 sets each |
| PSY 12 | Electrolyte Analyzer With Special Lithium analyzer | Measureable sample, serum, plasma, urine, calibration Measureable sample, serum, plasma, urine, calibration  standard with auto 2 point calibration. | 1 |
| PSY 13 | Multi behavior therapy | All parameters can be used simultaneously  Brain polariser useful in patient suffering from depression.  Aversion Therapy used for de-addiction. Remote control option available. | 4 |

PULMONARY MEDICINE

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | NAME OF EQUIPMENT | SPECIFICATION | TOTAL |
| PUL1 | CPAP | 1. Light weight & compact. 2. With Auto CPAP setting. 3. Pressure range 4 – 20cm H2O in 0.5 cm H2O increment. 4. Sound pressure level less than 30db. 5. Ramp time 0 – 45 min 6. With humidifier system. 7. Leak compensation feature. 8. Flex pressure relief technology 9. Two reusable nasal gel masks. 10. User manual, carrying case, air filter, power cord and flexible tubing & power supply included. 11. CE & FDA certified. | 4 |
| PUL 2 | Bilevel ventilator | 1. Targeting Volume in addition to EPAP/IPAP. 2. Large color display for giving patient data like pressure, VTe, Leak Min Ventilation, mode, Resp Rate etc with graph for the Pressure. 3. Input Power 100 VAC – 230 VAC at 50/60 Hz. 4. Automatic optimum triggering and cycling throughout changing breathing pattern and leaks 5. Automatic Volume correction for leaks and achieve targeted volume 6. With integrated humidification system. 7. Constant speed blower with valve technology 8. Parameters:  |  |  | | --- | --- | | Parameter | Ranges | | IPAP | 4 to 30 cm H2O | | EPAP | 4 to 25 cm H2O | | CPAP | 4 to 20 cm H2O | | Accuracy | +/- 2 cm H2O of the setting | | Target Tidal Volume | 200-1500 ml | | Breath Rate | 0 to 40 BPM(PC, T & S/T) | | Timed Inspiration | 0.5 to 3.0 sec | | Rise Time | 100 to 600 msec | | Ramp Duration | 0 to 45 min |  1. Modes:  * CPAP, BiPAP-S (Spontaneous ), * ST (Spontaneous time), * Timed mode, and * PC (Pressure Control) with Dynamic AVAPS.  1. Patient circuit comprising of Hytral tubing, Exhalation port and NIV mask (one set of Small, Medium & large size - oro-nasal) 2. Alarm for high resp rate, patient disconnect, apnea, Low Minute Ventilation and Low VTe (in AVAPS) 3. CE marked and FDA approved. | 9 |
| PUL 3 | Desktop Spirometer | 1. Light weight, easy to use, PFT data acquisition and processing 2. Autoclavable pneumotach sensor, with no moving parts. 3. Inbuilt thermal printer, to print reports via internal printer or A4 sized reports via using PFT software. 4. Storage capacity for 10,000 patients 5. Facility for both offline testing and online testing through software. 6. Single breath tests & multi-breath testing. 7. Real time F/V and V/ t curves on screen during testing. 8. Measure selectable test parameters including VC, TV, IRV, ERV, FVC, FIVC, FEV1, FEV6, FEV1/VC, FEV1/FVC, FEV1/FEV6, FEF 25, FEF50, FEF75, FEF25-75, FIV1, PIF, FIVC, FET, MVVind, FEV1 ratio, PEF, Lung age and others with % predicted or standard deviation twice. 9. Customized reports with interpretation option, BMI and Lung age information. 10. At least 8 hours of battery backup. 11. Choice of child incentives with sound effect. 12. Automatic BTPS correction facility. 13. Carrying case. 14. Measurements     1. Max displayed volume - 10L, accuracy +/- 3%     2. Max Flow rate - +/- 16 L/s Min flow rate +/- 0.02 L/s     3. Flow resistance : <0.1 kPa /L/S @ 14 L/S     4. Resolution 10 ml Vol & 0.01 L/S flow 15. CE, ISO. FDA certified and as per 2005 ERS/ATS standard. | 1 |
| PUL 4 | Video Bronchoscope Adult | Video processor should have:   * Should have in built software * Should have in approx. 50 No. Patient data. * Should have one unit with light source * Colour system: single-CCD color * Lamp: XENON short ARC * Video output: 2RGBS connectors/2Y/c connectors/1 composite video connector. * External device: 1 printer control connectors/2 external device control connectors. * Digital output: 1 serial connector * Weight: Not more than 15 kg * Monitor: 14 inch. LCD colour medical monitor.   Specification for video bronchoscope high resolution, Large image 2.0 mm working channel(Adult)   * Field of view: 120deg. * Depth of field: 3-50mm * Tip deflection up/down:180/130 deg. * Rigid distal diameter: 6.3mm * Insertion tube diameter: 6.2mm * Diameter of working channel: 2.8 mm * Insertion tube working length : 600 mm * Total length : 860 mm | 2 |
| PUL 5 | Video Bronchoscope Paediatric | Video processor should have:   * Should have in built software * Should have in approx. 50 No. Patient data. * Should have one unit with light source * Colour system: single-CCD color * Lamp: XENON short ARC * Video output: 2RGBS connectors/2Y/c connectors/1 composite video connector. * External device: 1 printer control connectors/2 external device control connectors. * Digital output: 1 serial connector * Weight: Not more than 15 kg * Monitor: 14 inch. LCD colour medical monitor.   Specification for video bronchoscope high resolution, Large image 2.0 mm working channel (Paediatric)   * Field of view: 120deg. * Depth of field: 3-50mm * Tip deflection up/down:210/130 deg. * Rigid distal diameter: 5.5mm * Insertion tube diameter: 5.1mm * Diameter of working channel: 2.0 mm * Insertion tube working length : 600 mm * Total length : 860 mm | 1 |
| PUL 6 | Fibreoptic Bronchoscope | |  |  |  | | --- | --- | --- | | Optical System | Field of view | 1200 | | Depth of Field | 3-50mm | | Insertion Tube | Distal End Outer iameter | ø 6.1- 6.2mm | | Insertion Tube Outer Diameter | ø 6.2mm | | Working Length | 550 – 600 mm | | Instrument Channel | Channel Inner diameter | ø 3.2mm | | Minimum Visible Distance | 5mm | | Bending Section | Angulation Range | 180° UP 130° DOWN | | 1 |
| PUL 7 | PFT machine with facility for spirometry, lung volume & diffusion capacity. | 1. Features: 2. Slow and forced spirometry (inspiratory and expiatory flow-volume loop) 3. Lung Sub volumes. 4. Airway Resistance by shutter method, 5. Diffusion Single breath measurement with a specific gas concentration for DLCO and TLC by Helium Dilution method. 6. Parameters: 7. Slow and forced spirometry: VT, BF, ERV, FVC, FEV1, VCin, VCex, MEF50, MEF25, MEF75, PEF, MVVetc. 8. Lung sub volumes by Helium Dilution, Residual volume (RV), Total Lung capacity (TLC), RV/TLC etc. 9. Diffusion SB – DLCO SB, DLCO VA, Crog factor, VA, Breath holding time, HB etc 10. Rocc by shutter method for measurements of airways resistance. 11. DLCO SB must have – 12. Program to train the patient to minimize the gas consumption & to avoid unwanted inhalation of gas during the training for the patient safety. 13. Must have facility to adjust Discard volume & Occlusion time to optimize the proper results. 14. The system should have an easy to change, bidirectional heated Pneumotach with the following specification: 15. Range = Should be 0 to 20 lit/sec 16. Accuracy = Should be +/- 2% 17. Resistance = should be less than 0.05 Kpa/lit/sec. at 10 l/sec.   Note - Breathing Pneumotach assembly must be able to easily disinfected & reusable only.   1. Calibration Programs: # System to meet ATS and ERS norms.  |  | | --- | |  |  1. Volume Calibration: Pneumotach based volume transducer, with min. 3ltrs. Calibration syringe pump. 2. Gas Calibration – Automatic Gas Calibration technique. 3. Ambient Calibration - Module for Ambient calibration, and automatic connection to BTPS 4. Facility for entry of patient data and saving of this information in a database. System software should be based on MS-WINDOWS –Xp or above OS. It should be possible to configure different report output formats. 5. The system should have ISO 9000 Quality Certification & US FDA approved. 6. The computer system should have specification equivalent or more than as follows:   Core 2 Duo Processor  2 GB RAM300 GB HDD, DVD ROM or writer  Color Monitor & Printer etc.   1. System should be complete with PC, TFT monitor, printer, suitable factory supplied trolley, gas cylinder for DLCO measurement 10 lit water cap, 500 pcs mouthpieces and filter. | 2 |
| PUL 8 | Arterial Blood gas machine | |  |  | | --- | --- | | System Overview |  | | Sample Size | Syringe: 95 µL Capillary: 70 µL | | Sample Type | Whole blood & Dialysate fluid | | Analysis time | 60 seconds | | Calibration | Automatic or on demand | | Input Parameters |  | | Temperature: | 10.0°C–43.9°C | | Hemoglobin: | 2.0–25.0 g/dL | | FIO2: | 15.0%–100.0% | | Patient/Operator IDs: | Up to 20 characters (alphanumeric) | | Sample location: | Radial, brachial, femoral, cord, arterial line | | Display Interface | color touchscreen icon based | | Onboard Computer |  | | Storage Capacity/Memory | Up to 250 patient test records. Up to 90 results for each level of QC | | Environmental |  | | Temperature | 15ºC–32ºC | | Humidity | max. 85% at 32ºC non-condensing | | Barometric Pressure | 400-825 mmHg | | Power Requirements |  | | Rating | 80 VA | | Voltage | 100–240 V | | Frequency | 50/60 Hz | |  |
| PUL 9 | Multipara Monitor | |  | | --- | |  |  1. 15" high resolution color TFT LCD display with maximum of 10 waveforms display 2. Basic 5 parameters - ECG, NIBP, SpO2, RR & Temperature 3. ST analysis and arrhythmia analysis 4. 96 hours tabular and graphical trends 5. 7 lead ECG waveform display (12 lead option ) 6. Pacemaker detection 7. Reviewing of 30 mins of selectable single lead ECG 8. Certification: CE 0123, FDA | 3 |
| PUL10 | Rigid Bronchoscope | Rigid Bronchoscope Kit  Universal Instrumentation Barrel and Anesthesia Connector (2 Pieces)  Metallic Obturator Cap  Metallic Obturator Cap for Telescope and Single Accessory  Metallic Obturator Cap for Single Accessory  Metallic Obturator Cap for Double Accessory  Jet Venturi  Fiber Light Deflector  Bronchial and Tracheal Tub es  13.2/12.2 mm - 7/6.5 mm Bronchial Tube (Ventilating)  Rigid Stent Placement Kit  Stent Introducer Tube Yellow/Orange/Black/Red  Stent Plunger Yellow/Orange/Black/Red  Stent Loader Yellow/Orange/Black/Red  Y-Stent Loader, Plunger and Metal Cover (3 pieces)  Telescopes and Silicone Caps  4.0 mm Autoclavable Telescope 490 mm Length, 0° Direct Vision  5.5 mm Autoclavable Telescope 490 mm Length, 0° Direct Vision  5.5 mm Autoclavable Telescope 363 mm Length, 0° Direct Vision  Telescopes should be compatible with all brands of light sources and cameras*.*  Silicone Caps for 4-5.5 mm telescopes with instrument hole  Standard FORCEPS  Stent Measuring Forceps, 2.5 mm shaft diameter, 60 cm length  Y-stent Forceps, 4.5 mm shaft diameter, 60 cm length  Grasping Forceps with Crocodile Jaw, single action, 1.5 mm shaft diameter, 60 cm length  Grasping Forceps with Crocodile Jaw, double action 1.5 mm shaft diameter, 60 cm length  Atraumatic Dissecting Forceps, 1.5 mm shaft diameter, 60 cm length  Cup Grasping Forceps, 1.5 mm shaft diameter, 60 cm length  Grasping Forceps with Crocodile Jaw, single action 3 mm shaft diameter, 60 cm length  Stent Cutting Forceps  ACCESSORIES  Canula for Suction and Cleaning, 2.5 mm shaft diameter, 60 cm length, straight tip  Disposable Suction Catheter, 2.8 mm shaft diameter, 60 cm length, straight tip  Laser Fiber Guide 2.5 mm shaft diameter, 60 cm length, bent tip  Knife Blade “Scythe”, 2.5 mm shaft diameter, 60 cm length  Cup Forceps, double action, 60 cm length, 3.0 mm diameter  Curved Grasper, 60 cm length, 3 mm shafter diameter  Hook Scissors, 60 cm length, 3.0 mm shaft diameter  Curved Scissors, 60 cm length, 3.0 mm shaft diameter  Micro Scissors, 60 cm length, 3.0 mm shaft diameter  Jumbo Grasper, 60 cm length, 5.0 mm shaft diameter (Ratchet Handle)10 | 1 |

SKIN & VD

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | Item Name | Specifications | Total |
| SVD1 | CO2 LASER | * Wavelength-  10,600 nm * Power - upto 30 watts * Pulse duration 300 to 800 ms * Spot size 1mm * Graphic display LCD * Beam delivery through optical fiber * Aiming beam Should be present and should put off while lasing * Cooling system- Closed cycle water to air * Power requirement - 3/6A, 110/220V, 50/60Hz, Single Phase | 2 |
| SVD 2 | Ultraviolet light A chamber | * A set of 30 tubes of UV A in metal chamber * Unit with proper insulation for separation of electric wirings from metal panels * The unit provided with mirror type reflectors. * Digital timer for accurate time settings in units and seconds * Cooling fans should be present with speed regulator * Unit should be open from top * Metal casing for the unit * Individual MCB switch for separate pane * Spike guard Protection | 3 |
| SVD3 | Ultraviolet light B chamber | * A set of 30 tubes of narrow band UV B in metal chamber * Unit with proper insulation for separation of electric wirings from metal panels * The unit provided with mirror type reflectors. * Digital timer for accurate time settings in minutes and seconds * Cooling fans should be present with speed regulator * Unit should be open from top * Metal casing for the unit * Individual MCB switch for separate pane * Spike guard Protection | 3 |
| SVD4 | Crash cart | * MS tubular frame * At least Six colored removable bin * Two polystyrene lockable storage boxes, each with three drawers * Four heavy duty swiveling castors of at least 125 mm dia each, two castors with brakes * Stainless steel I/V rod * Electric examination lamp with clamp * Pre treated and Epoxy powder coated. * Size: at least 950 mm (L) x 500 mm (W) x 1550 mm (H) | 1 |
| SVD5 | Trinocular microscope with Dark ground attachment | * Focus -Vertical stage movement: 25mm stage stroke with coarse adjustment limit stopper, Torque adjustment for coarse knobs, Stage mounting position variable, High sensitivity fine focusing knob (minimum adjustment gradations: 1µm) * Illumination-Built-in Koehler illumination for transmitted light, light intensity manager switch, High color reproductivity LED light source, halogen bulb (pre-centered) * Nosepiece - coded quintuple * Stage - with left or right hand low drive control: rotation and torque adjustment mechanisms * Observation tubes – widefield trinocular * Condenser - Phase contrast, darkfield (N.A. 1.1), [phase contrast: for 10x–100x, darkfield: for 10x–100x (up to N.A. 0.80)] * Stop enables dark field observation at 4x through 100x | 3 |

SURGERY

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | Name of equipment | Specification | total |
| SUR1 | Operative ultrasonic generator | 1. Ultrasonic generator with fixed frequency of 55.5 KHz with transducer and footswitch capable of incising tissue and providing hemostasis with minimal thermal injury. 2. It should have 5mm instruments/probes/shears. 3. It should have capacity of 5mm vessel sealing with lap and open shears. 4. It should have 3 different audible tone settings possible. 5. The probe of the Coagulating shear should be 360° rotatable and capable of working in three modes-Flat, Blunt and Sharp mode. 6. It should have option of hand activation with bilateral MIN and MAX switches 7. It should have a provision for connecting 2 footswitches for two surgeons to work simultaneously. 8. It should have self-diagnostic mode to detect any problem with generator, footswitch, transducer or instruments. 9. It should have an audible indicator for active shear/probe/instrument 10. It should have a warning system for a worn out probe/shear/instrument with error codes. 11. It should have a maximum of 5 power level settings with power level display of both MIN & MAX 12. Frequency of vibration should be same for both open and lap probes/shears/instruments 13. It has a vibration range of 50-110 microns(micro meters,μm) 14. The system can be put in standby mode for better safety. 15. It should not be combined with an Electrosurgical unit 16. It should be functional for both Laparoscopic and Open surgeries. 17. It should have an option of using 5mm hand activated Laparoscopic Shears. Accessories (a) Wrench (b) Test Tip (c) Transducer for shears (d) Transducer for fine dissecting probe   Open surgical instruments: (a) Coagulating  Shears-Open (b) Coagulating Shears-Open Curved Mode (c) Fine dissection probe for Thyroid and auxiliary dissection. | 3 |
| SUR 2 | Laser system for endoscopic treatment of prostate,bladder stones. Ureter and kidney holmium laser 100 watt | Laser Wavelength 2100nm  Maximum Average Power 100 W  Pulse Duration 350,700 microseconds  Pulse Energy 0.4 to 3.0 J  Repetition Rate 5 to 20 Hz  Visible Aiming Beam 532nm (green), 3m W maximum user adjustable  Electrical Requirements 115/230 V~ 15 A Single – phase | 2 |
| SUR 3 | PCNL set with endovision HD camera system . | Wide-angel straight forward telescope 6” with parallel eyepiece, autoclavable, with lock connection for inflow, with instrument channel, fiber optic light transmission incorporated optic sheet, 26 fr, for continues suction & irrigation  Hollow obturator and fascial dilator  3 piece puncture cannula, for localization of renal calculi including inner & outer cannulas. Dilation cannula , 03 mm , fo introduction of a second safety guide wire consisting of an inner i &outer cannula. I Telescope dilation set , consisting of : set of 6 dilators, size 9. 1 15,18,21&24 Fr., with 2 rigid & 2 flexible guide rods 7. Dilator 27 Fr Dilator, 30 Fr. Grasping forcipes for large stone fragments & coagula , fenestrated jaws & spring handle, length 38 cm, Grasping forcipes for large stone fragments, 3 expanding jaws &small fixation spikes, with spring handle, length 38 cm  Grasping forcipes for large stone fragments, with fenestrated jaws & ring handle, double action jaws, length 38 cm. Grasping forcipes for large stone fragments, serrated, double action jaws with ring handle, length 38 cm. Endovigion HD camera with LED light source. | 1 |
| SUR 4 | Flexible cystonephro fiberoscope | It should consist of the following —  Should allows endoscopic monitoring while performing urodynamic operative procedure. Large angel of view & deflectable distal tip for better orientation up to 110 degree. Deflection of dital tip: upward -210 degree and download-140 degree. Instrument channel 7 F. Waterproof, fully immiscible for cleaning & disinfection. Sterilizable via Et0 & FO gas, Steris & starred. Direction of view should be 0 degree. Working length 37 cm with distal tip diameter of 15.5 Fr. Following accessories are to be included: case for Moro scope. Grasping forcep for small fragments, single action jaws ,.Biopsy forceps 5 Fr with single action jaws length 73 cm, pressure compensation cap for ventilation during gar sterilization, leakage tester withy bulb and manometer. Cleaning brush 6 Fr flexible long for instrument channel., —adapter, with seal. Stone basket 5Fr length 60 cm consisting of 3 — ring handle, basket, coll. Coagulating Electrode 4Fr length — 73 cm. Endovision HD camera with LED light source. | 1 |
| SUR 5 | Uroflowmetry system | UROFLOWMETRY SYSTEM (THIRD GENERETION) should be fully automatic, starting to scroll or print when flow is detected, & stopping when the patient has finished voiding. | 2 |
| SUR 6 | Ventilator | Fast response time combined with high peak flow up to 250 1/mm, offer amazing performance. Very sensitive inspiratory & expiratory triggers, allow effective & effortless birthing amazing sensitive pressure flow sensors & fast response time make it very gentle & synchronized ventilation despite of very efforts by patients. 3 Patented "Flow by technology" make at virtually effortless triggering in tracheostonized patients. Real time display of curves and loops with unique software. Display pressure /time. Flow/time, compliance loop (volume / pressure). Flow volume loop. Measured parameters, calculated parameter, trends, alarms, remote control. | 1 |
| SUR 7 | Rigid cystoscope | 1. Cystoscopic sheath-from 11fr1 2. 19Fr.(with obturator) | 1  2 |
| SUR 8 | Turp set | High Frequency Cord  For use with working elements for prostate with 4 m banana plug for HF electrosurgical general former models  wide angle Straight Forward Telescope 6  With parallel eyepiece autoclavable with lock connection for inflow with instrument channel fiber optic light transmission incorporated  Operating sheath 24 Fr. For continuous irrigation and suction  Operating sheath 24 Fr. For continuous irrigation and suction  Hollow Obturator and Fascial Dilator  Telescope Dilation Set, consisting of set of 6 dilators size 9,12,15,18,21 and fr with 2 rigid and flexible guide rods  Dilator, 27Fr.  Dilator, 30Fr.  Grasping Forceps for small stones and stone fragments with fenestrated jaws and ring handle double action jaws length 31 cm, for use with Telescope und Sheaths  Grasping forceps for large stones and stone framents 3 expanding jaws and small fixation spikes with spring handle, length 31 cm for use Telescopea nd Sheaths  Biopsy forceps single actions jaws with ring handle, length 31 cm for use with Telescope and Sheaths  Puncture Cannula for localization of renal calculi including inner and outer cannulas, package of 5  Guide wire for introduction through the cannula  Dilation Cannula 3mm for introuction of a second safety guide wire , consisting of an inner and outer cannula  Resectoscope sheath with Lock Stopcock  Including connecting tube for irrigation 27 Fr. Oblique beak with obturator  Resectoscope sheath with Lock Stopcock  Including connecting tube for irrigation 24 Fr. Short beak with obturator  Resectoscope sheath with Lock Stopcock  Including connecting tube for irrigation 27 Fr. Short beak with obturator   |  | | --- | | Outer sheath 26 Fr (1)   Inner sheath 24 Fr (1)  Obturator (1)    Visual obturator (1)   HF Cord (1)   Ellicks evacuator (2)   Working element (Resectoscope - Passive cutting) (1) | | 2 |
| SUR 9 | Ureteroscopic set 1 with lithotripter(pneumatic) | Ureteroscope,6 F to 13.5 F range short and long uretroscopes , autoclavable, with angled eyepiece, fiber optic light  Transmission incorporated, 2 lateral irrigation ports and 1 working channel 5 Fr. For instruments 4Fr. With Instrument port, Sealing and Cleaning adapter  Uretersocope  8Fr. 60 one step conical, 8-13.5Fr Length 34cm autoclavable with angled eyepiece fiber optic light transmission incorporated 2 lateral irrigation ports and 1 working channel 5Fr. for instrument 4Fr. with instrument port , sealing and Cleaning adapter  Pneumatic Lithotripter (Lithoclast) for stone Disintegration | 2 |
| SUR 10. | Flexible cystoscope | Cystoscope shealth   1. 22fr. Two Lock Adopters with Obturator   Cystoscope shealth  17Fr. Two Lock Adopters with Obturator  Cystoscope shealth  20Fr. Two Lock Adopters with Obturator | 1 |
| SUR 11 | General laparotomy set | Sponge holder - 24 cm (3)  Needle holder - long 20cm(1)  Needle holder - medium 18 cm (2)  Needle holder - small (1)  Curved artery forceps - 16 cm (20)  Mosquito artery forceps -12 cm (20)  Allis tissue holding forceps-15 cm(6)  Allis tissue holding forceps-20cm(6)  Babcocks forceps-16cm (4)  Babcocks forceps-20cm (4)  Kellys forceps -20 cm(3)  Right angled forcep clamp-23 cm(3)  Right angled forcep clamp-18 cm (3)  Straight artery forceps - long 16 cm (2)  Straight artery forceps - medium 12 cm (4)  Kochers artery forceps (2)  Towel clip-13 cm(4)  BP Handle - NO. 4(2)  BP handle-No.3 (1)  Non toothed dissecting forceps - 15 cm(2)  Non toothed dissecting forceps - 24 cm(2)  Toothed dissecting forceps -15 cm(2)  Metzenbaum scissors - 14cm(2)  Metzenbaum scissors - 18cm(2)  Metzenbaum scissors - 20cm(2)  Metzenbaum scissors - 26cm(2)  Mayos scissors -Curved 23 cm (2)  Mayos scissors -Curved 17 cm (2)  Suction Cannula -small (1)  Intestinal non crushing clamp -Straight 26 cm (2)  Intestinal non crushing clamp -Curved 26 cm (2)  Stomach crushing clamp (Payrs) 1  Intestinal crushing clamp (Payrs) 1  Dejardine stone holding forceps(2)  Pool suction nozzle(1)  Morris retractor - Big(2)  Morris retractor - Small (2)  Harrington retractor - Broad(3)  Abdominal self retaining retractor with 3 blades(1)  Deavers retractor -Broad (2)  Deavers retractor -Narrow(2)  Stainless steel bowl -250cc(1)  Stainless steel bowl -500cc(1)  Stainless steel tray(1)  Czernys retractor (2)  Mayos safety pin (4)  Mixters forceps - 20cm (1)  Right angled forceps - 20 cm (1)  Right angled forceps - 15 cm (1)  Langenback retractor - (6)  Upper end retractor (2) | 8 |
| SUR 12 | Urethroplasty set | * + 1. TURNER WAR WICK RING RETRACTOR 1 NO. 9INCH   B.TEFLON HAMMERS 750 GM. 1 NO. 125 GM.  C. BONE CUTTER / GAUZES 1 NO. 7 INCH  D BONE NI BLER PARROT JAWS 1 NO 7 INCH  E.ANGULATED CHISSLE 3 NO. 10/15/20 M.M.  F.MUSTER RETRACTOR 2 NO. 4INCH/6 INCH  G.PORT SCISSOR 1 NO. 45 PAROT JAWS  H.TURNER WAR WICK NEEDLE 1 NO 6 INCH  I.OPEN N NEEDLE HOLDER 1 NO. 7 INCH  ANGULA  J.EXPANDER AVAILABLE IN 3 DIFFERENT 3 NO 4 /6/8 INCH SIZE  (NESS SPECULAM)  K.SET OF 6 J NEEDLE 1 SET SILICON  SET OF DEVER RECTRACTOR 2 NO. SILICON  M. BBUCCAL MUCOSA PAD 1 NO. SILICON  N. SESET OF HAGROO DAILATOR 1 NO 4/7-6/9-8/11 .  FIBER CARRIER HAGROO DAILATOR 1 NO 7/10 | 1 |
| SUR 13 | Open surgery hand clip applicator small,medium,& large | Clip Applicator  , for small clips, reusable.  Clip Applicator –, Medium  , for medium Clips, Reusable  Clip applicator For large clips,reusable | 3 |
| SUR 14 | High definition camera | HD Camera Control Unit 220V wit in built recording system and medical monitor.  HD Camera Head w/24mm Coupler, 3.15mtr. Cable  Medical Grade Camera with the True Digital Output, High Definition Digital Circuitry 3Chip Camera, With 8steps Built-in Digital Enhancer. Electronic Zooming,  HD Features Digital: Hi Definition (HD) Video - 1280x1024 native resolution, Progressive scale technology -, Digital Outputs Hi Definition fidelity, F button camera head design - Multi - Specialty Settings - Analog Output and Features:-High Resolution 1100Lines,Signal to Noise Ratio>72db , Minimum Illumination < 0.5lux, without Gain Enhancement *,* Increased Depth of Focus,Improve the VideoSignal strength and Signal to Noise ratio.,  Remote White Balance and Gain on at the Camera Head.,Controls of the Two peripheral accessories at Camera Head,  \*10’ or 20’ Camera cable option.  1 Standard RGB Output,2 S-VHS Outputs,2 Remote Outputs,  2 Video composite (VHS) Outputs.  HIGHEST RESOLUTION & MAX. SENSITIVITY CAMERA  FULLY AUTOMATIC AND LIGHT WEIGHT  Manual function should be also available  Light Source Color Temp.6000 degree Kelvin.  Enable True color reproduction have the Universal Jaw mechanism with single handed cable lock/release, to accept fiber optic cables from 2.0mm to 6.5mm in Dia  Accept Fiber optic cables of all standard makes without any Adapters,  Display of the Bulb life usage on the front panel  The also have the following features  300 watt Xenon Bulb, 500 H s of Bulb Life, \* Single Handed Cable Insertion, Internal Safety Check, Automatic Light Adjustment, Optimized for High Definition Video, \* Ethernet Connection for Upgradeability & Remove Monitoring, \* Voice Integration Compatible  High definition Minicamera  1 Chip Camera Includes Camera console, 0688-020-0001, 220V, Power cord, VHS&S-VHS cords 0688-210-122 Camera Head with coupler. Built in 8 step Digital Enhancer. No electronic disturbance during Cauterization Features. High Resolution > 500 Lines Singal to Noise Ratio> 50db Minimum Illumination 1.50lux. without gain enhancement increased Depth of Focus. | 2 |
| SUR 15 | Thompson's self retaining retractor upper gi | Thompson Sims self Retaining Abdominal Retractor with table  attachment | 1 |
| SUR 16 | Flexible endoscope gastroscope | Gastrovideoscope:  - Built in HDTV compatible CCD with close focus observation capacity.  - Suitable for Narrow Band Imaging.& Dual Focus  - Fully immerssible in disinfectant solution (no need to attach water resistant cap) & one touch connectivity.  - In built scope identification memory chip for monitor display of scope's model  no.serial no., white balancing memory, no. of connections/cummulative uses  etc.  - Auxilary water jet for mucosal cleaning  Field of view : Normal/Near focus 140 degree or more  Direction of view : 0 degree, forward viewing  Depth of field : Near 2-6 mm, Normal 5-100 mm or better  Distal end outer diameter : 9.9 mm or less  Insertion tube outer diameter : 9.9 mm or less  Tip Bending rage : Up 210 deg, Dn 90 deg, Lt & Rt 100 deg.  Working length : 1030 mm or more  Channel inner diameter : 2.8 mm or more  Minimum Visible distance of : 3 mm or closer from distal end.  instrument used through channel | 1 |
| SUR 17 | Lower gi flexible endoscope with videorecording and monitoring system (with inbuilt recording system.) | Colonovideoscope:  Built in HDTV compatible CCD with (Dual) Near & Normal focus observation capacity.  - Should have Narrow Band Imaging.for detailed mucosal study  - Inbuilt features lke Variable stiffness, High force transmission & Passive bending for ease of insertion.  - Fully immerssible in disinfectant solution (no need to attach water resistant cap) & one touch connectivity.  - In built scope identification memory chip for monitor display of scope's model  no.serial no., white balancing memory, no. of connections/cummulative uses  etc.  - Auxilary water jet for mucosal cleaning  Field of view : In Normal focus 170 deg,  In Near Focus-160 deg or more  Direction of view : 0 degree, forward viewing  Depth of field : : Normal- 5-100 mm, Near 2-6 mm or better  Distal end outer diameter : 13.2 mm or less  Insertion tube outer diameter : 12.8 mm or less  Tip Bending range : Up & Dn 180 deg, Lt & Rt 160 deg.  Working length : L : 1680 mm I: 1330 mm or more  Channel inner diameter : 3.7 mm or more  Minimum Visible distance of : 4 mm (Normal) or closer from distal end.  instrument used thru channel | 3 |
| SUR 18 | Bariatric surgery ot table | Table for patients weighing 300kg wt with leg splits for operating surgeon to stand between the legs and attachments. | 1 |
| SUR 19 | Multi purpose robotic surgery system | MULTIPURPOSECOPUTER ASISTED AND ROBOTIC ASISTED SURGERY SYSTEM WITH TELEMANIPULATOR ,ROBOTIC ARMS AND END EFFECTORS AND MANIPULATORS WITH POSSIBLITY OF REMOTE SURGERY WITH SURGEON CONSOLE,PATIENT SIDE ROBOTIC CART WITH AT LEAST 4 ARMS AND HIGH DEFINATION 3 D VISION SYSTEM. | 1 |
| SUR 20 | Flexible esophageal bougies | |  |  | | --- | --- | | Maloney (tapered) 21-piece full set | 21 bougies, 20-60 FR | | Maloney (tapered) 10-piece mini-set | 10 bougies, 36-54 FR | | Hurst (blunt) 21-piece full set | 21 bougies, 20-60 FR | | Hurst (blunt) 10-piece mini-set | 10 bougies, 36-54 FR | | Bougie Storage Case | Heavy-duty storage for up to 46 bougies. 32″L x 7″W x 4″H | | 1 SET EACH |
| SUR 21 | Self retaining ring retactor for pelvic surgery | The retractor is composed of a vaginal ring, five retractor blades, four ratchets, and two accompanying bars to secure it in position | 2 |
| SUR 22 | Cusa cavition ultrasonic aspirator | DISSECTING DEVICE TO FRAGMENT TISSUES AND ABLATE THEM ON PRINCIPAL OF ULTRASONIC DISSECTION WITH SIMULTANEOUS ASPIRATION | 1 |
| SUR 23 | Argon plasma coagulator | Technical Specifications:   1. It should be microprocessor based advanced Electro Surgical system should provide consistent performance by using latest & reproducible technology. 2. Should have facility to use gas argon coagulator. 3. It should have Monopolar cutting modes:-   a) Low cut– for delicate tissue and laparoscopy & endoscopy  b) Pure cut – for clean precise cut  c) Blend cut – for cutting with heamostasis.  d) Endo Cut-(Gastrocut)- for G.I. surgery  4. It should have Monopolar coagulation modes:-  a) Desicate – for low voltage contact coagulation suitable for laparoscopic and delicate tissue work  b) Fulgurate – for efficient non contact coagulation  c) Spray – for coagulation of large tissue area with minimum depth of necrosis.  5. it should have Bipolar cutting modes :-  a) Saline – For TURP,TUVP,TCRE.  b) Macro mode-For new generation of macro bipolar cutting instruments.  c) Plasma mode-Advanced computerized wet field bipolar works under blood, saline etc.  Bipolar Coagulation modes:  a) Precise mode – For Opthalmic use.  b) Micro mode- To have fine control of dessication in delicate tissue.  c) Plasma mode  6. combined bipolar cutting & coagulation.  7. It should have Sinusoidal waveform  8. it should have Activation by double pedal footswitch and hand switch.  9. it should have independent activation of hand switching, footswitch & automatic start/stop system.\  10 it should have true digital power readout with dosage error control with Self diagnostic mode & error display.  11. It should have stoppage of output in case of malfunction with acoustic and visual signal with display.  12. it should have Patient to Patient plate cotact quality monitoring technology utilizes 2 sided neutral electrode plate for patient control system which continuously monitors the neutral electrode for proper application in real time and it alarms and deactivates the output if the contact of the patient with the plate is compromised or not proper.  13. should have System for monitoring and control of leakage current.  14. should be supplied with Trolley, mains cable, foot switches for mono and bipolar.  15. it should be supplied with the following accessories:   * Electrode handle with and without finger switch cable for electrode handle * Set of electrodes(long & short) * Electrode container with holder * Tip cleaner * Bipolar forceps * Cable for bipolar forceps * Cable for connecting to mono polar and bipolar laparoscopic instruments.   It should be CE or FDA Approved | 2 |
| SUR 24 | LED CEILING LIGHT WITH COVER (WHITE LIGHT) with camera for recording | |  |  |  | | --- | --- | --- | | Technical Data |  |  | | Reflector System | 4 |  | | Illumination Intensity | 140000 Lux. |  | | LED Service Life | 50000 Hours. |  | | Colour Temperature | 5500 K. |  | | Colour Rendering Index | 90 Ra |  | | Temperature increase in Surgeon's head area | < 2 ° C |  | | Index Light Spot | 200 - 250 mm |  | | Brightness Adjustment | Nearly 0%- 100%  From Panel or Remote Control. |  | | Power | 230 VAC/ 50/60 Hz. |  | | 12 |
| SUR 25 | Vessel sealer | Should be able to coagulate vessels upto 7mm  Should contain Seal foot paddle as well Bi-Polar foot Paddle.  System feedback mechanism provides audible tone when successful seal cycle is complete  Instrumets have option of hand control with sealing and dissection in both 10mm and 5mm laparoscop8ic handsets.  Indicator for Re-Grasp should be activated as necessary.  Seal strength should be measured by the Bar indicator on the system generator.  System should be compatible of Return Electrode Monitoring polyhesive contact quality monitoring system.  System should be US FDA approved.  Accessories:-  Laparascopic sealer divider instrument, with Shaft Diameter 5 mm, Shaft rotation< 180 deg.  Laparascopic sealer divider instrument, with Shaft Diameter 10 mm, Shaft rotation< 360 deg.  Standard instruments for open procedures resection with instruments length 18 cm, Jaw angles=<30deg.  Sealer divider for open procedures with instrument of Shaft Diameter 10 mm,. Shaft rotation <360 deg, Jaw angle straight,.  Connector Adaptor for Normal Bipolar attatchment. | 4 |
| SUR 26 | Surgical staplers and reloads | Reloadable linear stapler 60 mm(±10mm) for thick tissue thickness heavy wire adjustable with gap setting scale  Reloadable linear stapler 100 mm(±10mm) for thick tissue thickness heavy wire adjustable with gap setting scale  Reloadable linear stapler 60 mm(±10mm) for normal tissue thickness reload with grey color coding 30 mm  Linear reloading cutter 55 mm(±10mm) for stadard tissue thickness 55 mm(±10mm) cutter with cam machnism intermediate locking position & tissue retaing button.  Linear reloading cutter 75 mm(±10mm) for standard tissue thickness 75 mm(±10mm) cutter with am machnism intermediate locking position & tissue retaing button.  Linear reloading cutter 100 mm for standard tissue thickness 100 mm(±10mm) cutter with am mechanism intermediate locking position & tissue retaing button  Reloads for 55 mm(±10mm) linear cutter for standard tissue 2281 thickness 55 mm(±10mm) .  Reloads for 55 mm(±10mm) linear cutter for thick tissue thickness 55 mm(±10mm)  reloads for 75 mm(±10mm) linear cutter for standard tissue thickness reload 75 mm(±10mm)  Reloads for 75 mm(±10mm) linear cutter for thick tissue thickness 75 mm(±10mm).  Linear cutter of 55mm(±10mm) with inbuilt selectable staple height  Universal black reload compatible with the 55mm(±10mm) linear cutter with inbuilt selectable staple height  Linear cutter of 75mm(±10mm) with inbuilt selectable staple height  Universal black reload compatible with the 75mm(±10mm) linear cutter with inbuilt selectable staple height  Linear stapler 30mm (±5mm)/60mm(±10mm)/90mm (±10mm)size with controlled tissue multiload compression  Re-usable linear cutter 55mm(±10mm) with capacity of 200 fringes and separate knife- blade module.  Reloads for re-usable linear cutter 55mm(±10mm) with closed staple height of 1.5mm and 2mm  Knife blade module compatible with re-usable linear cutter 55mm(±10mm) with capacity of 200 firnges.  No Knife module compatible with re-usable linear cutter 55mm(±10mm) with capacity of 200 firnges.  Hemmorhoidal circular stapler 33mm(±5mm) with controlled tissue compression, leg length of 4mm, should have polypropylene suture kit with each stapling device  Intra-luminal curved circular stapler 21 mm(±5mm) and 25mm(±5mm) with controlled tissue compression  Intra-luminal curved circular stapler 29 mm(±5mm) and 33mm(±5mm) with controlled tissue compression | 10 |
| SUR 27 | Bipolar turp set | Resection in saline solution  It should have one 30 degree & and one 12 degree telescope,4mm,autoclavable.  Cutting loop,bipolar,24Fr,to be used with both 30 degree as well as 12 degree telescopes .  Cutting loop,bipolar,24Fr,small,to be used with both 30 degree as well as 12 degree telescopes.  Resctoscope sheath,26dfr,oblique beak,rotatable inner tube with ceramic insulation  Obturator for use with sheath.  Working element,bipolar,cutting by means of spring,movable thumb support,in rest position the electrode is inside the sheath.  Compatible HF cord.  SPECIFICATION FOR HIGH FREQUENCY UNITS FOR BIPOLAR RESECTION SHOULD HAVE  Degree of coagulation can be reselected in several steps  It should have soft,standard and forced coagulation.  Automatic activation of coagulation current as soon as coagulation electrodes touches tissue with both prongs.  Bipolar application with nacl irrigation solution.  Spray coagulation.  Arc controlled cutting,unipolar.  Max bipolar saline coagulation at 200 watt,bipolar saline cut 100watt,bipolar saline cut at 300 watt.  Unipolar max at 300 watt where standard coagulation at 200 watt,forced coagulation at 120 watt,spray coagulation at 120 watt.  HF/LF leakage current monitor.  Switch over function enables switching between two modes within a user programme via a foot switch from sterile area. | 1 |
| SUR 28 | Holmium lasers Watts | •It should be able to fragment calculi of any size in the bladder ureter or kidney and any impacted stone fragment .  It should be able to ablate superficial bladder tumors, urethral & ureteral tumors.  •It should be able to treat invasive bladder carcinoma & condylomas and lsions of the external genitalia.  •It should have power output of 20 watts.  •It should have repetition rate of 5 50Hz.  •It should have Energy per Pulse of 0.2 3.5 Joules.  •It should have pulse duration upto 600 microseconds.  •It should have Red aiming beam of 2.5mw at 650nm, 3 intensity settings.  • It should have a Touch Screen Colour Display and should rotate 360 Degrees.  • It should have a closed loop, self contained water to air exchanger cooling system.  • It should be useable with single phase 230V AC 50/60Hz,  30Amp s Power Supply  • It should be supplied with following accessories:  • 550 Micron Reusable, Flexible Fiber 1  • 365 Micron Reusable, Flexible Fiber 1  • 200 micron Reusable, Flexible Fiber 1  • 550 Micron Side Fire Fiber for Ablation 1  • 550 Micron Stripping and cleaving (set) 1  • 365 Micron Stripping and cleaving (set) 1  • 200 Micron Stripping and cleaving (set) 1  • Fibre Inspection Scope 1  • Ceramic Scissors 1  • Accessories Bag 1  • Laser Safety Goggles 3  • Laser Safety Glasses  Other Pre-requisites for 20w laser  a. There should be a number of installations in lndia being used for more than three years.  b. The principals should be present directly in lndia. c. The principal company should have direct Service  Engineers. All the Service Contracts to be managed by them directly and sufficient spares inventory should be available  d. The company should provide support which helps the  center gain visibility and provide customized support ( Sponsored Workshop, Patient Education Brochures, Developing the hospital as a Training Center etc.)  e. Should be able to do Entire extraction of any size of prostate and lithotripsy- both in one machine with Less Post Operative Complications  f. The unit should be Economically viable to the Center and  the Patient- Reusable fibers , should have their own  Morcellator.  g. Advance machine software which enables user to choose numerous power settings for cutting and coagulating both, simultaneously should be available.  h. All the essential equipment and accessories required with the machine like Morcellator (for removing enucleated Prostate), fibers etc are directly manufactured by the principals  Applications :  Urology  �Bladder neck incision (BNI)  � Transurethral incision of prostate (TUIP)  �Lithotripsy of renal, ureteral  � Ureteral and Urethral strictures  �Bladder and ureteral tumors  It should be supplied with greenlight LBO Laser 120 Wt.for photoselective vaporization of prostate along with sodefire fiber 50 no nd continous flow laser cyctoscope nd UPS | 3 |
| SUR 29 | Impedance based bipolar  RFA for endoluminal ablation. With accessories and disposables. | General  •Should be based on the principle of Radio frequency induced Thermotherapy for endovenous treatment of venous nsufficiency.  •Current should be induced through bipolar applicators. Should not need any neutral electrodes.  •Should be intersitial form of therapy which can be performed under local anaesthesia.  •Tissue should be heated between 60 degree C to 100 degree C using Catheter like monitored and indicated by an acoustic signal.  •The power output of the RF generator should automatically correspond to the tissue resistance and ensure that the radio frequency is emitted as the proper rate so that thermal injuries or burns are avoided.  •Should have footswitch control.  Should be a compact unit and should be supplied with 25 units of single use applicators.  Power Unit  Output power : 1-25 Watts  Frequency - 470kHz  Channels : 1 Bipolar  Applicator - 2 boxes of 5 pcs  •Should be flexible and ultrathin (1.8mm diameter)  •The tip should be hemispherical to avoid intravenous injuries.  •The length should be 1200 mm.  •The electrode length should be 15 mm.  Should have 3 m long cable in each applicator | 2 |
| SUR30 | Sigmoido Scope | 1. Viewing direction-forward 2. Observation Range-4-100 mm 3. Field of view -140 4. Distal end diameter-12.8mm 5. Flexible portion-12.8mm 6. Bending capability   Up-180  Down-180  Left-160  Right-160   1. Working length-790mm   Total length-1000mm | Adult4  Pedia4 |
| SUR31 | Burr hole set | 1. Firm tungsten Stylet for accurate targeting & placement. 2. Soft, blunt tip for passage through tissue. 3. Burr hole ring & cap for secure anchoring. 4. Final Cap/Burr hole Cover/ 5. Disposable screw driver. 6. Boot for (percutaneous extension) 7. Depth stop gauge. 8. Passing Straw. 9. Tunneling rod   10.Quadripolar lead. | 1 |
| SUR32 | Power saw | Microprocessor controlled Power Driver System should provide complete functions of bone harvesting drilling & fixation of small bone & helps in osteosynthesis.  Should have computerised control with touch screen facility having options of digital display of speed & to preselect acceleration & beraking of handpiece speed.  Should be provided with cable & footswitch & should be provided with complete set of following accessories Universal Drill Multiple handpieces 1:5 speed upto 30,000 rpm.  Micro Saggital Saw with blades with speed of 20000 cycles/min.  Micro Oscillating saw with blades with speed upto 15000 rpm.  Micro reciprocating saw with blades with speed of 20000. | 1 |
| SUR33 | Micro instruments set | Microsurgical instruments specially designed in consideration with the depth of the operating field, for free tissue transfer/nerve repair. The instruments should be balance in design to put the centre of gravity between webspace & the index finger.  Instruments should be curved to facilitate needle driving.  The micro scissors should be specially designed for minimum closing pressure distribution along the blades.  Handles should be round with the spring instrument configuration & with curved blades. They should be rounded at the tips with the radius of 0.3mm & adventitia scissors should have very sharp tips that are pointed for fine trimming & suture cutting.  All instruments should have special ergonomic design & have well made tips for high durability.  The vessel dilator should have special ball point form of the tips so that the dilator pressure is evently distributed over the entire area of the vessel.  Needle holder should be specially designed for secure grip due to parallel closure over the entire jaw length and closing pressure precisely caliberated for minimizing fatigue. They should have stronger tips to withstand higher pressure tip dia 0.3mm or 0.4mm.  Microclamps should be light, compact robust & have unique gripping surface. They should have smooth sliding bar action on all approximator clamps for vessel diameter of 0.4mm to 0.5mm, pressure of 5gm/mm2 to 15gm/mm2  Forceps 15cm round handle 8mm dia st  Forceps 15cm round handle 8mm dia cvd tip.  8mm dia angulated 45 dig.  Forceps 11cm long, flat handle, 9mm wide st..  Forceps 12cm long, flat handle, 9mm wide st  Forceps 13.5cm long, flat handle, 9mm wide st.  Forceps 18cm long, flat handle, 9mm wide st., balance Forceps 18cm long round handle, 8mm dia st..  Clamp applying forceps for vessel 0.4 to 2.25.  Clamp applying forceps for vessel 1.5 to 5.0mm.  Dissecting Scissors 18cm long round blade handle 10mm dia, 10mm long cvd.  Dissecting Scissor 15cm long round blade handle 8mm dia, blade 9mm long cvd.  Dissecting Scissors 12cm long round handle, 7mm dia, blade 8mm. Adventita Scissors 15cm long round handle 8mm dia, blade 9mm long St.  Adventitia scissors 15cm long round handle 8mm dia, blade 9mm long st..  Adventitia scissors 15cm long round handle 8mm dia, blade 7mm long vanas pattern  Needle Holder 14cm long, Flat handle 8mm wide.  Needle Holder 12cm long, round handle 7mm dia.  Needle Holder 13cm long, round handle 8mm dia.  Arteriotomy Clamp (set of 3)  Instrument breaker with silicone bottom  Instrument rack for 8 instrument  Nerve approximator  Microvascular Single clamp 8mm for Veins.  Microvascular Single clamp 11mm for Veins.  Microvascular Single clamp 17mm for Veins.  for vesse size 1.5 to 3.5mm Approximator.  Double approximator without frame 8mm, for Veins.  Double approximator without frame 11mm, for Veins.  Double approximator without frame 17mm, for Veins.  For vessel size 1.5 to 3.5mm approximator.  10/0 TAPER POINT, 100 MICRON NYLON BLACK 4MM CIRCLE3 3/8 (BOX OF 12).  9/0 TAPER POINT, 100 MICRON NYLON BLACK LENGTH 15CM, CHORD 4MM, CIRCLE 3/8 (BOX OF 12).  9/0 TAPER POINT, 140 MICRON NYLON BLACK LENGTH 15CM, CHORD 4MM, CIRCLE 3/8, ARCH 5MM (BOX OF 12).  8/0 TAPER POINT, NYLON BLACK LENGTH 15CM, MICRON 140, CHORD 3MM, CIRCLE 3/8 ARCH 3.8MM (BOX OF 12)  HYDRAULIC CHAIR with Arm rest, foot rest, foot control for upward and downward control and remote for control. | 1 |
| SUR34 | Laser | Laser Type – CO2 (Sealed off)  Wavelength - 10,600mm  Mode Structure - True TEMOO Mode Power to Tissue - Continuous and pulsed : 1w to 30w  Super Pulsed (Char-free) : 0.1w to 9.9w  Ultra Pulsed (Char-free) : 0.1w to 3w  Pulse Duration - Super Pulse : 400-800us, Ultra Pulsed : 300us less then  Peak Power - up to 300-600w  Hand Pieces 50mm to 100mm ENT (Opitonal)  Spot Size - 100mm Hand Piece : 1.0mm, 50mm Hand Piece : 0.2mm.  Display - Graphic LCD or FND  Memory - User programmable settings  Beam Delivery - Ariculated arm with 7 mirrors, hollow fiber (Option)  Aiming Bearn - 635mm, 5mw, adjustable brightness, blinking, and off while lasing  Cooling System - Closed cycle water to air  Power Requirement - 3/6A, 110/220 V, 50/60Hz, Single Phase  Dimensions - 350 (W) x 300mm (L) x 1110mm (H) (without arm)  Weight - 40Kg | 1 |
| SUR35 | Laparascopic set | Laparoscopic set consisting of –   * Hand instruments * HD endocamera * CO2 insufflator * suction irrigation system with irrigation pump * HARMONIC SCALPEL * Xenon Light Source * LCD HIGH DEFINITION MONITOR   TECHNICAL SPECIFICATIONS OF LAPAROSCOPIC INSTRUMENTS  Should have High Definition telescope 10mm diameter, 0 degree angle of view with  Right angled eyepiece distortion free, autoclavable, working length 300 mm. 1  Should have High Definition Telescope 10 mm diameter, 30 degree angle of view  Distortion free, autoclavable with working length 300mm. 1  Should have High definition telescope 5mm diameter, 0 degree angle of view with  right angled eyepiece distortion free, autoclavable , with working length 300 mm. 1  Should have High Definition Telescope 5 mm diameter, 30 degree angle of view  distortion free, autoclavable with working length 300mm. 1  Should have trocar sleeves 10mm 11 mm diameter , with magnetic ball-valve with tap,  oblique distal tip working length 100mm. 2  Should have trocar 10mm diam. with pyramidal tip 2  Should have Trocar sleeve 5.5mm to 6mm with magnetic ball valve system with  oblique distal tip and a metalic stopcock 3  Should have pyramidal tip trocar with insufflation tap 3  It should have reducing sleeve for trocar sleeves 10.0/5.5 mm, working length 170mm 1  It should have Modular Atrumatic grasping Forceps, fenestrated, with horizontal  serrations, double action, dia 5mm , working length 330 mm 1  It should have Modular Atrumatic grasping Forceps, smooth, double action, dia 5mm ,  working length 330 mm 1  It should have Modular grasping Forceps, with two teeth , fine horizontal  serrations, single action, dia 5mm , working length 330 mm 1  It should have Modular grasping and dissection Forceps, fine pyramid-shaped  toothing, slimline, 18 mm, double action, dia 5mm , working length 330 mm 1  It should have Modular grasping and preparation Forceps, fine horizontal serrations,  double action dia 5mm , working length 330 mm 1  It should have Modular Universal grasping Forceps, pyramid shaped toothing und  horizontal serrations, 15mm, double action, dia 5mm , working length 330 mm 1  It should have Modular Grasping and dissection forceps “mixter”, angled, fine pyramid  shaped toothing , double action, dia 5mm , working length 330 mm 1  It should have Modular Atrumatic grasping forceps , jaw throat with wavy tooth  edge, 20 mm, single action dia 5mm , working length 330 mm 1  It should have Modular Grasping and dissection forceps “Dolphin”, angled, fine  horizontal serrations, with jaw throat, slimline, 15mm long, double action dia 5mm ,  working length 330 mm 1  It should have Modular Grasping and extraction forceps , myoma holding forceps,  2 x 3 claw, 30 mm, single action, dia 5mm , working length 330 mm 1  It should have Modular grasping and preparation forceps fine horizontal  serrations, fenestrated, double action, with sprung jaws dia 5mm , working length  330 mm 1  It should have Modular Grasping Forceps “Debakey’ jaws 30 mm long dia 5mm ,  working length 330 mm 1  It should have Modular Biopsy Forceps severing , single action dia 5mm ,  working length 330 mm 1  It should have Modular Scissors “Metzenbaum”, curved left, double action dia 5mm ,  working length 330 mm 1  It should have Modular Scissors, slimline, straight, double action, dia 5mm ,  working length 330 mm 1  It should have Modular Micro Scissors, “Metzenbaum”, curved left, double action,  dia 5mm unipolar, working length 330 mm 1  It should have Instrument basket, high-standard, outer dimensions (W x L x H)  250 x 530 x 200 mm, weight 3.5 kg, suitable for standard container 1  Should have Forceps 10 mm 2/3 claws riwo grip modular system, with locking  mechanism rotatable with working length 310 mm 1  Should have hook electrode monopolar with working kength 340mm. 1  Should have modular needle holder, with carbide insert, 5mm dia right, curved diameter,  working length 340mm. 1  Should have modular needle holder, left curved with carbide insert 5mm diameter,  working length 340mm. 1  It should have Suction irrigation tube 5 mm with central and lateral openings  With working length 290 mm 1  Should have hook electrode monopolar with working kength 340mm. 1  Should have Needle Electrode monopolar 5mm, working length 340 mm 1  Should have spatula electrode 5mm diameter with working length 340mm. 1  Should have monopolar connecting cable for 4 mm pin, 3m long 2  Should have clip applicator 10mm, working length 340 mm for medium large clips 1  Should have guide sleeve dia 10mm for clip applicator 1  Should have bipolar forceps 5mm dia with working length 300 mm 2  Should have Bipolar connecting cable 3m long 2  It should have multi-purpose suction irrigation system having following  specification. 1 set  Irrigation & suction set consisting of   * Irrigation & suction handle * irrigation and suction hos * cap for irrigation & suction handle.   Irrigation & Suction tubing set with connection pin autoclavable.   * Suction irrigation tube 5 mm dia. with workinglength 310 mm. * Suction Irrigation Tube 10 mm dia with working length 310 mm.   High frequency hook electrode with suction and irrigation channel.  it should have irrigation pump   * It should be a compact design and cleanable while retaining the same convenient operation * It should not have any projecting buttons but should have continuous membrane surface * It should produce low noise during suction and irrigation procedure * It should have a maximum irrigation output of 2 Ltr/min * The pump should automatically switches-off when the final vacuum is reached * It should be supplied with spare tubing * It should be a IEC/EN Certified product   TECHNICAL DATA  Power connection : 100-240V  Max. Pump pressure : 400mm Hg  Suction pressure : -50kpa and -60kpa  Dimensions : 140 x 210 x 295mm  Weight : Approx. 4 Kg  Should have Co2 Insufflator  It is an Automatic Pressure and Flow Control Insufflator. It has High degree of safety during Laproscopic Procedures. It has a High Flow Insufflation Of 40 Litre approx.  It should have high pressure connection tubes for Co2 bottles with din connection 1 m long  HARMONIC SCALPEL 01   * It should have a Table top model Ultrasonic Generator with Fluidic and Ultrasonic modes. * It should have reusable tip of titanium alloy and should be autoclavable * It should have a compact trolley with castors to accommodate the Generator * It should have a Power cord (110-240 VAC 50/60 Hz) * It should have double Footswitch for Ultrasonic scissors * It should have separate connecting cables (2 each) for Ultrasonic handpieces & Curved Ultrasonic Instruments. * It should have Ultrasonic hook of 5mm dia with working length of 300mm * It should have Ultrasonic scissor 5mm dia with working length of 325mm * It should have Ultrasonic hook of 10mm dia with working length of 170mm for open surgery * It should have Ultrasonic scissor 5mm dia with working length of 190mm for open surgery * The complete set should be CE certified   ENDOCAMERA HD 01   * It should have HDMI (High Definition Multimedia Interface) and compatible with the graphics interface DVI (Digital Visual Interface) as used in monitors and documentation system. * It should be supplied with compatible adaptor cables * It should have the feature of HDMI cables of Camera have lockable connectors which provide a particularly secure connection for trouble free function. * It should offer 2 x HDMI standard signals for all controller versions. * It should provide the highest quality of professional signal currently available * It should have a signal choice when the camera image is transferred over a distance longer than 5 M. * The monitor should have the capability to accommodate the above feature. * The controller module of the camera must have 3G-SDI to record HD videos using the USB interface at a later point. * It should offer S-Video and composite as switchable PAL or NTSC signal to operate analog documentation systems or analog monitors in the existing OT installations. * It should have an additional 3G-SDI input which permits simultaneous display and documentation of an external signal as a small preview i.e. Picture-in-Picture (PIP) * It should have controller to adjust the size and location for display of the PIP * It should be able to store the single images in HD quality on USB media formats: TIFF, JPEG & PDF. * It should record the patient data using a USB key board and the data can be displayed in the folder structure of the USB memory * It should have a printer with good image quality and the printouts in photo quality should provide with a protective coating to safeguard against water spray etc. * The camera head should permits adaptation of different sensors technologies i.e. 3CCD, 1CCD and C-MOS. * The digitizing process should take place in the camera head itself. * It should be able to connect three different camera heads to the Camera i.e. 3 chip HD, 1 Chip HD and Pendual HD. * It should have programmable keys and three different cable length of 3,5 & 8m which can be replaced easily. * The camera heads should be autoclavable and are supplied with c-mount lenses. * It should have a automatically controlled light source which are functionally matched with the Camera. * The light source should be able to communicate with other system components through their CAN BUS interface. * It should have malfunction light socket dial for connecting light guides from different manufacturers. * It should have a sophisticated cooling concept and generate least noise. * It should have a touch display on the front panel and should be able to set wide range of parameters during manual operation. * It should be able to control the brightness of the displays automatically to the ambient light therefore not to cause glare in dark operation theaters. * It should be able to regulate brightness of the light source, switch the lamp to standby or reactivate from the camera head buttons. * The light sources and HD Camera should be integrated in CORE system. * It should have option for connecting different camera heads and chip-on-tip endoscopes. * It should have 3G-SDI output, intelligent communication and storage of images and videos directly on a USB stick. * It should have variably scalable signal outputs * It should have factory-set endoscopy presents which can be increased and can store further presets at any time. * The camera heads should be with snap-on endoscope lock and can be changed by the user. * It should be supplied with 26” LCD Monitor with G-SDI input in the basic version which fits with 3G-SDI output of the camera. * It should have LED backlight illumination technology, high brightness and enhanced contrast. * It should be supplied with Mobile trolley which can accommodate all the equipments.  Xenon Light Source 300watts Xenon light source 300Watts for high light intensity with accurate focusing arrangements. It  should have a relatable fiber light cable connector to directly connect the light cables of  different makes without using any adoptors. It should have an easy system to replace the  lamp. It should have a colour temperature of 5600K. It should have different selection modes  for automatic video spot video and integral video. 1  Should have Spare Lamp for the above 300 Watts Light source 1  Fibre light cable 2300 MM length with 4.5 mm fibre bundle diameter 1  LCD HIGH DEFINITION MONITOR  The Medical Grade Monitor should have :  -High Class Full LCD panel 26” diagonal   * High Definition Monitor to be used for Video LCD. * Resolution of 1920 x 1200 pixel * Aspect Ratio of 16:10 * DVI-D/HD-SDI/BNC/S-video inputs and outputs VGA input for PC. * Excellent angle of view, contrast, brightness and color depth. * Simultaneous display of two images picture-in picture * Monitor Stand for Safe mounting. * Mains supply 240 V, 50 Hz * Should confirm to the international standards.   It should have Monitor Stand for above Monitor  Should have original Mobile Unit Trolley consisting of :  Mobile Universal Video Trolley Including 4 Shelves, 3 of which are fully height adjustable  Integrated Cable ducts, 4 Antisstatic Smooth- Running Double Casters, 2 of which can be  looked Dimensions wxhxd. 673x1508x688 mm  Basic Electrics to connect Upto 12 Electrical Units,Mains Voltage,230v, Consisting Of : 1  Housing, 1 Mains Module, 1 Unit Socket Outlet 1 Main Switch, 6 Unit Mains Cables. Transformer Module Mains Voltage 230v, Isolating Transformer, Technical Data: Max.2000va,  Max.9a,To Upgrade The Basic Electrics, Dimensions wxhxd 420x145x280. Weight Approx. 32  Drawer Unit For Mobile-Trolley, Wxhxd 540x 125x560  Camera Head Holder For 3D Endocamera  Holder For Light Cables with Connectors.  Infusion Bottle Holder Height Adjustable From 1.6 To 2.6m To Support Side Mounting And  Clamp Included.  Cover Assembly into The Trolley Consisting Of: Lockable Safety Glass Doors and Lockable Rear Panel Side Panels from the original manufacturer | 1 SET |
| SUR36 | Electro cautery | Electtical unit for monopolar and bipolar cutting and coagulation with automatic power control, voltage and are controlled generator for cutting three different coagulation modes, safety channel, limitation of max-power in cutting and coagulation mode.  Cutting:-   * Monopolar autocut with automatic voltage control * Monopolaro autocut with are control, especially for cutting procedures under water like TUR, Hyteroscopy etc. * 4 coagulation effects for constant cutting quality * PPS power peak system for support for initial incision and cutting * Nominal frequency of HF voltage 350kHz * Nominal HF 300watts at 500 ohms * Bipolar Auto:- * Nominal HF output 120 watts at 500ohms * Monopolar coagulation * Soft coagulation max 120 watts at 125 nominal frequency 350 KHZ deactivation by footswitch, handswith or auto stop * Forced coagulator max 120 watts at 500 ohms, nominal frequency 1 MHZ * Bipolar coagulation:- * Max 120 wats at125 ohms * Nominal frequency of 350 KHZ * Start of coagulation by footwitch or autostart with two different values of start dealy * End of coagulation by footwitch or autostop * Safety channel:- * Self check for all safety related subassemblies including accessories * NF leakage current control * HF leakage current control * HF leakage current control   Output error control  Activation time control  Patient plate mirror controls the application of the plate to the patient the correct orientation of the plate  Error display controls technical defects and opetating  error and records the most recent 10 messages. |  |
| SUR37 | Lithotripsy | * Extracorporeal shock wave lithotripter equipment –ESWL * Electromagnetic shock wave * Non invasive technique * Consist of – Shock wave generator   + Focusing system   + Coupling mechanism   + Localization system   USFDA approved |  |
| SUR38 | Mobile surgical work station | |  | | --- | | Ultrasonic Surgical Workstation should be in modular design and multipurpose instrument saving cost and time | | Should be used in General Surgery, Urologic surgery, Gastrectomy, Appendectomy, Trauma , Neurosurgery, Cardiac Surgery etc. | | Should have function modules with Ultrasonic Surgical Aspirator, Ultrasonic Hemostatic cutter, Ultrasonic Debridement System. | | Should have Multi-function integrated platform combining Ultrasonic Hemostatic cutter, Ultrasonic Debridement System and Ultrasonic Surgical Aspirator | | All items should be from single manufacturer for system compatibility. | | Manufacturer / Supplier should have ISO certification for quality standards | | Ultrasonic Hemostatic cutter | | Should have removable multiple use multi- purpose scissors used in minimally invasive surgery | | Should have blade working at 55.5 KhZ Ultrasonic frequency for mechanical oscillation front and rear 50um-100um. | | Controllable hemostatic function slender and small vessels occluded and intraoperative hemorrhage reduced. | | Ultrasonic Debridement System | | Should be advanced technology and mainly used for open fracture difficult heated and Chronic wound. | | Should have unique controller for liquid concentration and flow of flushing fluid, when aiming at different parts debridement . Should have large area | | Should have enhanced columniation , cavitation suitable for the deeply infected and deep wounds. | | Ultrasonic Surgical Aspirator | | Should be used in General Surgery and particular durable slender lengthened tips made of titanic alloy. | | Should have excellent tissue selectivity protects vessels and nerves with a clear anatomization, accidental injury avoided, operative time saved and concuttent diseases decreased | | Should have vessels (D>1mm) saved (Vibration amplitude <50o/o ), thrombin activity increased by cavitation and hemostatic effect enhanced. | | Should have multifunction of fragmentation, irrigating and aspirating provides a clear surgical visual field and through removal of tumor, risk of leftover cancer cells growth avoided and postoperative recrudescence reduced. | | Should have low vibration amplitude (Max 300um) with no sideward vibration, rapid precise and easy removal of pathological tissues with no incision burn and few peripheral injury and rapid concrescence. | |  |
| SUR39 | Plasma sterilizer | Should have automatic input control of sterilant along the input amount of object of sterilization, Complete dehumidification and minimization of processing time by controlling processingtime along moisture content, Complete removal of exhaustedhydrogen peroxide and hydrogen peroxide.  Should have Embedded system, Cryo-prober Dopplers, Electrocautery instruments, Defibrillator paddles, Endoscopic instruments, Rigid endoscopes, laryngoscope & blade, arthroscopes, laparoscopes & Trocar cannula and Trocar sheaths,resectoscope and sheaths, etc  Should have Flexible endoscopes bronchoscopes, hysteroscopes, choledoc hoscpers, ureteroscoprs, cystoscopes, etc.  Should have Esophageal dilators, Fiberoptic light, cables, Laser handpieces, fibers, accessories, Shaver handpieces / Pigmentation handpieces, Metal instrumensts, Ophthalmic lenses (Diagnostic, Magnifying), Patient lead cable, Radiation therapy equipment and Surgical power equipment and batteries (Power drills), Ultrasound probes and Video cameras and couplers  Should be CE Marked, ISO: 9001, FDA approved.  Technical specifications:-  Capacity of chamber not more than 33 liters  Temperature of 50 deg C – 60 deg C  sterilizing chamber  Preparation stage 3~15 minutes  Sterilization stage 20~24 minutes  Exhaustion & drying 4~15 minutes  Sterilant hydrogen peroxide  Vacuum range 760torr~0.5torr  High voltage transformer  Input voltage 220V/AC 60Hz  Output voltage 15Kvp 20Khz  Service voltage 220VAC, 60Hz single phase  Power consumption: 2kw  Dimensions: 500mm (W) x 700mm (H) x 780mm (L)  Weight not more than 140kg  The above specification is generalized |  |
| SUR40 | Flexible endoscope & side viewing gastro\_duodenoscope | Specification for Video Endoscope system  Ø     Videoprocessor with light s ce  Ø     Gastro intestinal videoscope  VIDEO SIDE-VIEWING DUODENOSCOPE  Ø     Videocolonoscope  Ø     Endoscope washer  Ø     Accessories  Ø     Hardware for recording & archiving  # Should be latest CCD Chip technology with minimum 400K pixels CCD resolution  # Scopes should have Autoclvable Suction & Air water buttons to avoid infections & better saftey management  # VIEWING DIRECTION  Lateral, 5- 8 DEG REARWARD  FOR COMPLETE LATERAL VIEW & FULL SCREEN IMAGE  # OBSERVATION RANGE  4 - 60mm  # FIELD OF VIEW  MINIMUM 100 -110 DEG  # DISTAL END DIAMETER  FROM 12.5 TO 13.5 mm  # FLEXIBLE PORTION DIAMETER  FROM 11.5 TO 12.5 mm  # BENDING CAPABILITY  UP 130-140 DEG  DOWN 90 -100DEG  LEFT 90 -100DEG  RIGHT 110 -120DEG  # FORCEPS CHANNEL DIAMETER  minimum 4.2 mm  # WORKING LENGTH  1,200 to 1250mm  # TOTAL LENGTH  1,500 to 1550 mm  # Should be Super Image scope showing full screen circular imgae.  #Should be light in weight & controls should be eaisly operatable | 1 |

ENT DEPARTMENT

|  |  |  |  |
| --- | --- | --- | --- |
| SUR41 | Urethral dilator set | * 1. Metal   2. Flexible   3. Flexible with filiform and followers | 1 set each |
| S.N | NAME OF EQUIPMENT | SPECIFICATION | TOTAL |
| ENT1 | Endoscopic camera 3 chip | Endo Camera 3 chip Vision system I high definition including HD camera control unit 220v camera head w/24mm coupler, 3.15 mtr. Cable  HD Features digital, Progressive scanning with 8 steps built-in digital enhancer. Electronic Zooming  Digital: Hi definition (HD) video-1280 x 1024 native resolution incredibly small and ergonomic camera head- for superior comfort and control Standard aspect ratio-allows you to maximize existing video equipment Progressive seal technology-optimum image quality with superb resolution  Digital outputs - DVI necessary to take advantage of digital Hi definition fidelity four button camera head design - control of 6 functions from the camera head Multi- Specialty settings-user selectable Specialty setting which customize video output for the unique needs of your cases | 5 |
| ENT2 | Endoscopic camera single chip | Digital single-chip-camera-color-system PAL,NTSC- with integrated image processing module.  Specifications :  Image sensor – 1/2” CCD- chip  Picture elements : 752(h) x 582(V) pixel, (PAL)  768(H) x 494(V) pixel, (NTSC)  Resolution : > 450 lines (horizontal)  Signal-to-noise ratio : >50db (PAL) >52db (NTSC)  AGC : +18DB  LENS : integrated parfocal zoom lens , f=25mm-50mm  Instrument coupling : coupling device for all rigid and flexible endoscopes with standard eyepiece.  Video output : composite signal to BNC socket.  Y/C signal to S-VHS socket(2x)  Input : keyboard input for character generator,5 pole DIN socket.  Control output : 3.5mm stereo jack plug, (ACC 1, ACC 2)  Camera head : compatible with endoscopes present  Camera cable : length 300cm  CCU : dimensions : 305mm x 89mm x 335mm , weight : 2950gm.  Certified to : IEC 601-1,601-2-18. CE label according to MDD, protection class 1/BF. | 5 |
| ENT3 | Endolaryngo-Stroboscope set | 1. Fiberoptic laryngoscope 10 mm 700 2. Stroboscope for larynx examination ,with built in antifog –air pump ,power supply : 100/ 120/127/220/230 VAC, 50/60 Hz   Specifications:  Slow –motion mode strobe frequency : 0.5- 2 Hz.Phase position: 0-400 hz, overlapping strobe phasing adjustment range  Operation mode : continuous (cold light),still picture ,slow motion (stroboscope).Microphone:high sensitivity  Dimensions :470 mm × 135 mm × 410 mm  Consist of: Mains cord  Laryngostrobe  Footswitch  High sensitivity microphone  Laryngoscope holder  Silicon tubing set | 5 |
| ENT4 | Halogen cold light fountain | 250 watt including 400 A mains cord Halogen lamp 250 watt color temp app 3400 K- Light intensity adjustment adjustable in 3 steps | 17 |
| ENT5 | Xenon cold light fountain | Tungsten XENON with 175 watt  XENON lamp and one light outlet power  Supply : 100-125/220-240VAC, 50/60 Hz consisting of XENON 400 Mains Cord | 9 |
| ENT6 | Diode laser | Specifications Wavelength (nm) 780nm Diode Power (mW):5/20 Operation Voltage:3~5v Beam Diameter:3mm Beam Divergence: < 0.5mrd Operating Current at 25Deg C <50mA Collimating lens: Aspheric plastic lens Case material: Brass MTIF (Mean Time To Failure)2000 hrs. of operation Specifications of Laser Diode Module of 30mW 830nm Modulation Frequency 100 KHz Modulation Level 100% (signal on) & 20% (off) of optic output power Max. Optical Output power ~ 70% of max. diode power (w/o front cover, 7mm aperture) Wavelength (nm) 830nm Diode Power (mW)30mW Operation Voltage:5V/12V Operation Temperature -10 +/-40/50/60/700C Beam Diameter 7mm (w/o front. cover), 4mm (w/front cover) Beam Divergence <0.8mrd Bore Sighting <15mrd Operating Current at 250 C <50mA; Collimating· Iens 3-element glass lens Case Material: Black. Anodized (Aluminium) Life time·2000 hrs. of operation | 2 |
| ENT7 | ENT treatment unit with patient chair and with work station | ENT Treatment unit with patient chair and with work station   1. Compact design with thermal resistant workshop and auto touch control panes 2. Large aluminium pull out tray with dividers for keeping various sterile instruments 3. Containers with flap openings for keeping used instruments and wastes 4. 2 power sockets 230V should work on 230 V with deviation of 50/60 hz 5. Should be equipped with 6. Large illuminated LCD display 7. Menu system and digital adjustment of equipment 8. Recording and editing software 9. PC link and arrangement of coupling PC with controls 10. Endoscopy counter with telescope 0 degree view 4 mm diameter & 175 mm working length 11. Suction use counter which should have –Suction hand pieces with tubings capacity 70 ltrs per minute vacuum 0.80 bar, receptacle with overflow valve for suction system, suction tips 1 mm, 1.5 mm and 2.5 mm 12. Compressed air system with spray hand pieces 13. Warm water irrigation system 14. Inline water filter with connectors 15. Ear rinse cap 16. Pre heated for mirrors 17. Microscope with minimum 3 step magnification charger and spare bulb 18. Compatible digital video camera 19. C mount adopter water proof 20. Microscope beam splitter with integral endoscope adopter 21. 17 inch TFT monitor with LCD Flat screen 22. Integrated fiber optic light source with fiber optic cable for telescope 23. fiber optic light source 150 W halogen for head light 24. fiber optic head light with integrated fiber optic cable 25. cautery Poer out put 26. doctor stool with – 360 degree ratable adjustable back and height cross type base 27. patient chair with – electrical height adjustment, arm rest, footrest,   6 flat diagnosis program  7 should be compatible with future development  8 protection cover for microscope and work station | 19 |
| ENT8 | Operating microscope with viewing tube & endo camera with monitor | Operating microscope with viewing tube & endo camera with monitor zoom. Motorized with foot control objective lenses 200, 300, 400 with side tube and camera (CCTV) with monitor | 11 |
| ENT9 | Operating microscope wall mounted for OPD with zoom, | Operating microscope wall mounted for OPD with zoom, motorized with foot central objective lenses 200, 300, 400 with side tube and camera(CCTV) & Monitor 17’’ | 11 |
| ENT10 | Headlight with internal fiber optic light cable fully adjustable | Headlight, light model illuminated area 65 mm in diameter with 46 cm working distance; with thin integral fiber optic light cable, diameter 2.5 mm, with fully adjustable, comfortable headband  - Headlight adjustable in 3 dimensions vertical adjustment at the headband, front part Rotatable through 45° to the left and to the right and 165° downward  - Self retaining in any position no deviation from desired position | 26 |
| ENT11 | Headlight with internal fiber optic light cable fully adjustable with camera | Headlight, light model illuminated area 65 mm in diameter with 46 cm working distance; with thin integral fiber optic light cable, diameter 2.5 mm, with fully adjustable, comfortable headband  - Headlight adjustable in 3 dimensions vertical adjustment at the headband, front part Rotatable through 45° to the left and to the right and 165° downward  - Self retaining in any position no deviation from desired position  With adjustable focus & field controller | 11 |
| ENT12 | Wireless endoscope | 1/18" Color camera Pixel :320x240( NTSC ) TV Lines 0. 77mm/F3.0 2Lux / Fl.2 DC 3.3 V dimensions:  (D) 7.5mm x 12.5mm  (D) 3.5mm X 23mm | 10 |
| ENT13 | Heavy duty shadow less operating light for ENT OT similar make major+minor(O.T.) | Specially designed for providing cool & high intensity light colour- correcting heat & high intensity. Light colour- correcting heat radiation in the field. High performance special halogen light sterilizable handle provided for positioning of lamp possibility of wide range of radial, Angular & axial smooth movements. Technical specification Type of lamp ceiling with twin domes seven+four reflector Dome 1 dome 2  Dome  Size 712mm approx 557mm approx LUX intensity 80,000 LUX+-10% 50,000 LUX  Temp. 4300+-10%K4300+-10%K  Temp. Inc.2˚C+-to 4˚C ambient  Light field diameter 15-20cm  Halogen bulb 24 W  Power supply 220 V Ac, 50/60Hz 220V  AC 50/60 Hz | 6 |
| ENT 14 | Otoscope pen torch | Model Magnification Ring illumination with Halogen bulb attachment for air pressure (changes Battery Operated using AA pen torch cells Spare Batteries and spare Bulbs 3 | 52 |
| ENT 15 | Rigid nasal endoscope | 4mm length 18 cms complete set 00, 300, 700, 900 Autoclavable wide angle autoclavable fiber optic light system incorporated  2.7mm 00, ,300 | 9sets |
| ENT 16 | Rigid nasal endoscope | 18 cm length dia. 2.7mm 00, ,300 | 3 |
| ENT 17 | Rigid Esophagoscopy set | Oval Esophagoscopes with fibreoptic light carrier distal illumination with handle.  length 30 cm OD 10 mmx14 mm  length 50 cm OD8mmx12mm  length 30 cm and OD 12 mmx16mm  Optical pediatric and adult forceps for esophagoscopes, optical alligator forceps, optical forceps for peanmt and soft foreign bodies and optical universal forcep  Esophagoscopic forceps, alligator grasping peanut grasping, circular cup biopsy, punch biopsy, scissors straight, trituration of bone, universal biopsy and grasping forcep. | 9  11  20 |
| ENT18 | Bronchoscope set (pediatric & adult) complete set with all accessories including forceps | Bronchoscope paediatric  Bronchoscope, length 30 cm size 6  Bronchoscope, length 30 cm size 5.5  Bronchoscope, length 30 cm size 5  Bronchoscope, length 30 cm size 4.5  Bronchoscope, length 30 cm size 4  Bronchoscope, length 30 cm size 3.5  Bronchoscope, length 30 cm size 3  Bronchoscope, length 30 cm size 2.5  Bronchoscope adult  Bronchoscope tube universal, with fiber optic light carrier, length 43 cm, size 8.5  Bronchoscope tube universal, with fiber optic light carier, length 43 cm size 6.5  Accessories for bronchoscopy  Prismatic light deflector with connection for fibreoptic cable light carrier.  Glass window plug  Instrument guide for aspiration catheter  Adaptor to respirator  Sealing plug for respirator connection  Rigid suction tube 50 cm length x2.0 mm dia, 35cm lengthx2.0 mm dia, 25 cm length x2.0 mm dia.  Bronchoscopic forceps  Peanut grasping 55 cm length x2.5mm diameter  Crocodile alligator forceps straight, Lt&Rt  Circular cup biopsy forceps standard 35 cm lengthx2.5mm diameter  Alligator grasping 45 cm length x2.0 mm dia  Rotating Sharp pinted peanut grasping (f) circular cup biopsy fenestrated forceps 35 cm length x2.0 mm dia, 25 cm length x2.0 mm dia | 8 sets |
| ENT 19 | Drill engine complete with micro foot control and connecting cord | Output-DC30V/0.5A, Input-AC 110V/220V 50/60 Hz, Motor- brush motor RPM- Handpiece Max.  Micromotor For forward and reverse cutting 35000 RPM (max) Straight Handpiece Contra angled Handpiece NSK Ex-6B NSK | 19 sets |
| ENT 20 | ENT heavy duty operation table | ENT heavy duty operation table with complete hydraulic and gear system tilt in any direction  Table operating-remote controlled electronic with CE mark  Techinical specification: length 1910mm, width 530mm, maximum height 950mm, minimum height 750 mm, trendlenberg, upto 30˚, reserve trendlenberg, up to 20˚ lateral tilts 200 both side | 8 |
| ENT 21 | Cautery bipolar electrosurgical STE standard and standard accessories | Diathermy micro processor based surgical diathermy for all kind of microsurgeries.  Electronic generator  Out circuit: floating; protected against defibrillator with HF leakages less than 10 mA  Cooling:convection without fan  Frequency:475 khz  HF leakage currents control:By microprocessor with automatic decrease of RMS voltage  Neutral plate safety: by microprocessor with control of both connections and Electrode/Tissue contact with Visual sighai and Audible alarm  Input power:220v-50Hz 220V-50Hz control systems: By microprocessor based stem  Adjustable power:By fine adjusting knob  Digital display: according to the digital display it shows the direct output by numeric representation (Easy for the surgeons to set the optimum power)  Accoustic and luminous singals:  Cut-Low sound: Yellow light  Coag-High sound,Blue light  Neu plate-Audible Red light alarm. | 5 |
| ENT 22 | Video laryngoscope with telescope | Video laryngoscope with telescope  Special features  Straight forward telescope 15˚, diameter 4 mm working length 18 cm autoclavable  Video laryngoscope working length 18 cm for adults medium size | 6 |
| ENT 23 | Distending operating laryngoscope | Distending operating laryngoscope  Pediatric size length 13.5 cm for use with fibre optic light carrier and suction tube  Fibre optic light carrier diameter 4 mm for use in central channel laryngoscope  Suction tube to remove vapour for laser treatment diameter 2 mm for use in central channel of laryngoscope length 10.5 cm | 6 |
| ENT 24 | OAE screener | Specification for OAE Screener  Test type: - DPOAE, TEOAE Test  Should have wireless data transmission facility to laptop by Infrared / Bluetooth technology.  Should be also stand alone unit & have storage facility more than 300 patients.  Should be battery (NIMH) operated with operating life 24 hours.  Should have frequency range up to 6000 Hz for DPOAE.  Should have frequency range up to 5000 Hz for TEOAE.  Frequency Intensity Range : 45 to 70 dB SPL  System must have programmable test frequency.  Result should display- Pass, Refer, Noise or graphical.  Should have automatic operations for screening & calibration of probe.  Should have the facility of set the environment.  Should have data management software for interface with PC. r Should have low battery, dead battery, database error, internal circuit error alarm.  Should be CE certified & ISO certified manufacturing.( Attach certificate)  Should supply with following accessories: ‑  Probe - 01no.  Infrared or blue tooth PC adaptor USB port - 01 no.  User Manual - 01no.  Database Management Software - 01 no.  Infant Ear tips Kit, 25 each (3.5,4,5,6,7mm) - 01 box  Child/Adult Ear tips kit, 25 each (7,8,9,1.0,11 mm) - 01 box | 8 |
| *ENT 25* | *BERA - audiometer* | *Technical data*  *Output data:*  *1. Frequency range Air conduction: 250Hz (90dB), 500Hz (120dB), 750Hz (120dB), 1kHz (120dB), 1.5kHz (120dB), 2kHz (120dB), 3kHz (120dB), 4kHz (120dB), 6kHz (110dB), 8kHz (110dB)*  *2. Frequency range Bone Conduction: 250Hz (50dB), 500Hz (60dB), 750Hz (60dB), 1kHz (60dB), 1.5kHz (60dB), 2kHz (60dB), 3kHz (60dB), 4kHz (60dB), 6kHz (60dB)*  *3. Frequency Accuracy : < 3%*  *4. THD + N : < 3%*  *5. HL accuracy : within 2dB*  *6. O/p level step size : 5dB*  *7. Attenuator accuracy : within 1 dB*  *8. Tone present : pulse & continuous*  *9. Masking : wide band*  *10. Live speech : 2 × microphone inputs*  *11. Level indicator : monitors live speech*  *12. PC interface : with RS 232 port*  *13. Display : 1 line of 16 characters*  *14. Power: 90 – 270 Volts (50 -60 Hz)*  *Software : Program details in CD*  *Dimensions : Length : 225mm*  *Width : 165 mm*  *Height : 40 mm*  *Weight : Absolutely lightweight as compared to other brands almost only 800 Grams*  *Memory : Depending upon hard disk capacity of PC* | *3* |
| ENT 26 | Impedence audiometer or middle ear analyzer | Technical data  Tympanomatry mode  Prob frequency , intensity – 226Hz =/- 1%, 85 db spl into cm3  High frequency – 678hz /800 hz /1000hz  Pressor range - +300 to 600 dapa  Volume range .1 to 6 ml  Accuracy + /- 5% or +/- 10dapa  Test time <3 second  Reflex mode  test frequency - 500,1000,2000,4000, hz +/- 2 %  Noise stimuli - WN/HP/LP  Test method - ipsilateral , contralateral  Intensities ipsilateral - 70….105 db HL  Intensities contralateral – 70…110 db HL with button contra phone  70…120 db HL eith TDH 39 contraphone  Ipsilateral reflex test – with AGC  Intensity setting – automatic or manual  Reflex decay mode  Test time - 13 sec , 10 sec , auto tone present  Eustachian tube mode  Pressure range +400 to – 400 dapa  With printer , and portable | 3 |
| ENT 27 | Micro laryngeal forceps | Required 2 each  Instrument  Micro laryngeal forceps serrated jaw 25cm , 35 cm, left 25 cm, right 25 cm, upward 25 cm, cup jaw straight 25 cm, left , right and upward 25 cm  Micro laryngeal scissor straight , left , right and upward 25 cm  JACKSON grasping forceps 25,35,45,55 cm  Foreign body forceps 25,35,45,55 cm  PATTERSON biopsy forceps 25,35,45,55 cm  Biopsy cup forceps 25,35,45,55 cm  Biopsy punched forceps 25,35,45,55 cm  JACKSON foreign body forceps 25,35,45,55 cm  JACKSON alligator forceps 25 ,35,45,55 cm | 7 sets |
| ENT 28 | Electric cautery with all accessories | Required 1 each in number  Heating voltage 0-3 V (no load)  Heating current : 5.5A – 13.5A  Spotlight Voltage : 0-2.5 V  Supply Voltage : 220/110, 50Hz  Power Consumption : 80 W | 1 |
| ENT 29 | Micro ear surgery instruments :- | TECHNICAL SPECIFICATIONS: The set should contain -  Sickle knife  Ring Curette  House Curette  Hook  Flap Knife  Straight Needle ( Perforator )  Malleus Nipper  Knife for meatal skin incision  Bayonet Shaped Elevators for meatal wall  Curette for tympanic ring  Fine probe for testing the movement of Foot plate of Stapes  Mobilisers for severing adhesions involving stapes  Oval Scoop  Oval window fenestrator  Fine suction with stilette  Hartman aural dressing forceps  Micro-scissors  Graft holding forceps or crocodile forceps  Straight cup forceps- 2 mm  Upturn cup forceps- 2 mm  Down turn cup forceps- 2 mm  Right side cup forceps- 2 mm  Left side cup forceps- 2 mm  Canal Mastoid retractor  Tympanoplasty knife  Micro elevator  Right angle pick  45 degrees pick  Small curved pick  Horizontal knife  Rosen’s Myringotomy knife  Incus Holding Forceps  Thumb Rest Elevator  Alligator forceps- 2 mm | 7 |
| ENT 30 | CO2 laser system | TECHNICAL SPECIFICATIONS for CO2 LASER SYSTEM  LASER TYPE - Ultra Pulsed CO2 Laser with Micromanipulator / Coupler, Operating Microscope, CCD Camera / Coupler, Beam Splitter, 22”Flat Screen LCD Monitor, Electrically operated 180 Degree Inclinable, Hight Adjustable - Patient Treatment Chair and Hydraulic / Mechanical Lever operated - Doctor’s chair.  LASER CONFIGRATION - SEALED OFF CO2 GAS, DC EXCITED.  WAVE LENGTH - 10600nm – 10.6 Micron.  MODE STRUCTURE - TRUE WG TEMoo MODE  POWER TO TISSUE - CONTINUOUS, PULSED, ULTRA PULSED 1 - 40W  PULSE DURATION - SUPER PULSE:400-800ms ULTRA PULSE < 300ms  PEAK POWER - 300-1200W  MICROPROCESSOR - SELF DIAGNOSTIC & SELF CALIBERATION  PURGE AIR - AUTO PURGE AIR.  HAND PIECES - 50mm & 100mm  SPOT SIZE - 0.1mm - 0.2mm at Focus.  DISPLAY - LCD Touch Screen  MEMORY - USER PROGRAMMABLE MEMORY SETTINGS  BEAM DELIVERY - ARTICULATED ARM 7 MIRRORS - TITANIUM.  AIMING BEAM - 635-670nm, 5mw,Red Diode - ADJUSTABLE BRIGHTNESS,  COOLING SYSTEM - CLOSED CYCLE PURIFIED WATER TO AIR  POWER INPUT - 3-6A, 220V AC / 50Hz.  WEIGHT - 60KGs. | 5 |
| ENT 31 | Bipolar RFA for ablation in ENT region with auto stop function. | Specification of Radio Frequency Induced Thermotherapy Units (ENT)  Should be based on the principle of Radiofrequency induced Thermotherapy for minimal invasive surgeries.  Should be interstitial form of therapy which can be performed under local anaeshtesia. Surface of the organ should remain intact.  Current should be induced through bipolar applicators. Should not need any neutral electrodes.  Tissue should be heated over 60 deg. C.  Should provide a rapid procedure.  Should have constant real-time monitoring of the coagulation process  Should provide end-of-procedure signal.  Should have automated power control to exclude overdosing.  Should have footswitch control.  Should be a compact unit and should be supplied with different applicators and probes.  Should be certified acc. to CE and IEC601.10 safety standards.  Consumables  Probes for treatment of Habitual snoring & Hyperplastic palatine tonsils in adults and children with conical tip & 1.3mm dia  Probes for treatment of mild obstructive sleep apnea with trocar tip & 1.3mm dia  Probes for treatment of Hyperplasia of the nasal concha, Habitual snoring (combined treatment) and Mild obstructive sleep apnea (combined treatment) with conical tip & 1.1 mm dia  Probes for treatment of Nasal polyps, especially recurrent polyps with conical tip and 1.3mm dia  Angled and bayonet Forceps with cables for tissue and vessel coagulation to stop bleeding in ENT and surgery.  Should use Bipolar RFITT for the cutting system  Should not require any neutral electrode  Should have the power setting of 1-25Watts  Should be compatible with cutting electrodes of 0.2mm dia & 10mm length  Should be supplied with Surgical Forceps Electrodes, Cutting Electrode Grip & connecting cables  Consumables  Cutting Electrodes | 7 |
| ENT 32 | Electronystagmography (ENG) machine | SYSTEM CAPABILITIES :-  . Input channels :4  . Low filter:1,2 or 4 seconds  . High filter:7.5/ 15/ 30 Hz  . Coupling:DC Response  . Input offset voltage Range:+ 16mV  . CMMR:> 14 dB  . Noise: < 5microV peak to peak max with input shorted  . Notch filter:50/60 Hz  . Resolution(ADC):14 bit  . Sampling rate: 500 Hz  . Sweep speed:5/10/20 mm/sec  . Range of eye position tracked : + 30 degree horizontal and vertical  . Linearity.Horizontal:1% full scale  Vertical:1.2% full scale  . Input power:120/240 VAC ,  50/60Hz  OPTICAL STIMULUS:-  . Type:Light bar  . Patient to bar distance :1 metre  . Target position:Gaze targets + 30  degrees  . Pursuits and saccades: computer  controlled  . Target size:< ½ degree  . Optokinetic:6 targets  ELECTRODES :-  . Type:Ag/Ag Cl Disc electrodes  MINIMUM COMPUTER CONFIGURATION :-  . CPU: PC IBM Compatible with P-IV, 512 MB , 80 GB HDD, 1 SL, 1 parallel, 4 USB Port.  . Monitor:15 inch colour  . Operating system:Windows Vista  . Printer :Windows compatible Inkjet/Laser jet  With soft wares | 6 |
| ENT 33 | Cryotherpy unit | Pressure indicator  Interchangeable tip  Foot pedal control | 5 |
| ENT 34 | Telescope handle | Stammberger telescope handle flat | 1 |
| ENT 35 | Hartman’s nasal speculum | L-13cm, | 1 |
| ENT 36 | Septum needle | Angular, leur lock | 1 |
| ENT 37 | Cottles elevator | L-20cm, double ended semi sharp & blunt | 1 |
| ENT 38 | Kuhn bolger frontal sinus curette | Small oblong, forward cutting length 19cm, 55°curved | 1 |
| ENT 39 | Kuhn bolger frontal sinus curette | Small oblong, forward cutting length 19cm, 90°curved | 1 |