TENDER DOCUMENT

GANDHI MEDICAL COLLEGE
BHOPAL

TENDER NO. 004 (SECOND CALL) : Due Date : 02/01/2013

GMC/Equipment/12-13/----------

FOR SUPPLY OF EQUIPMENT : **(MACHINERY, INSTRUMENTS & OTHER ITEMS)**

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

DEAN
GANDHI MEDICAL COLLEGE
BHOPAL

NATIONAL COMPETITIVE BIDDING FOR THE SUPPLY OF EQUIPMENTS (MACHINERY, INSTRUMENTS & OTHER ITEMS)

BID DOCUMENT PURCHASE START DATE	:	07/12/2012
LAST DATE AND TIME FOR SUBMISSION OF BIDS. 02/01/2013 Time up to 1.00 P.M. Starting New Post Graduate Disciplines and Incresing PG Seats & other Equipments for Various Department	:	DATE AND TIME OF OPENING OF BIDS (ENVELOP "A") 02/01/2013 Time at 3.00 P.M. -
PLACE OF OPENING OF BIDS	:	CONFERENCE HALL DEAN, GANDHI MEDICAL COLLEGE BHOPAL
ADDRESS FOR CORRESPONDENCE	:	DEAN, GANDHI MEDICAL COLLEGE, SULTANIA ROAD, BHOPAL (M.P.) PIN-462001

कार्यालय अधिष्ठाता
गॉधी चिकित्सा महाविद्यालय भोपाल

क्रमांक /एम.सी/10/2012 भोपाल,दिनांक /12/2012

निविदा आमंत्रण (IV/ IInd Call)

गॉधी चिकित्सा महाविद्यालय एवं उससे संबद्व चिकित्सालयों/विभागों के लिए उच्च कोटी गुणवत्ता के विभिन्न प्रकार के उपकरणों के क्रय हेतु मोहर बन्द निविदायें आमत्रित की जाती है।

निविदा प्रपत्र , नियम एवं शर्ते राशि रू 5000/–(रू. पॉच हजार मात्र) नगद /डी0 डी0 अधिष्ठाता एवं मुख्य कार्यपालन अधिकारी गॉधी मेडिकल कालेज सोसायटी भोपाल के नाम से जमा कर प्राप्त की जा सकती है अथवा **महाविद्यालय की वेबसाइट www.gmcbhopal.net से निविदा प्रपत्र डाउनलोड कर राशि रू. 5000/– का डिमान्ड डाफ्ट अधिष्ठाता एंव मुख्य कार्यपालन अधिकारी गॉधी मेडिकल कालेज सोसायटी भोपाल के नाम से संलग्न कर भी निविदायें प्रस्तुत की जा सकती है।**

जिन निविदाकारों द्वारा पूर्व में दिनांक 12/10/12 को अपनी निविदाऐं प्रस्तुत की थी, उन निविदाकारों को पुनः Tender Fee Rs. 5000/- का डिमांड ड्राफ्ट लगाने की आवश्यकता नही हैं संबंधित निविदाकार दिनांक 12/10/2012 को जमा किए गए अपने टेण्डर डाकूमेन्ट वापस प्राप्त कर लें , तथा पुनः अधिक से अधिक उपकरणों हेतु निविदाऐं प्रस्तुत करे । नवीन निविदाओं के साथ पूर्व में जमा की गई राशि रूपये 5000/– की डी0डी0 की छायाप्रति लगाना आवश्यक है ।

डाक द्वारा फार्म क्रय करने एवं जमा करने की सम्पूर्ण जवाबदारी निविदाकार की होगी । निर्धारित तिथि एवं समय के पश्चात प्राप्त निविदाओं पर विचार नही किया जावेगा ।

कार्यालय से निविदा प्रपत्र प्राप्त करने, कार्यालय में जमा करने तथा प्राप्त निविदाओं को खोलने का विवरण निम्नानुसार है।

S N	Particular	Bid Document Purchae Start Date	Last Date & Time for submmission of Bid	Date & Time of Opening of Bid
1	Upgradation Casualty , Cardiac Science Centrer, Gastroenterology, Tramma Unit , PMR. **FOURTH CALL**	7-12-12	22-12-12 upto 1-00 Pm.	22-12-12 upto 3-00 pm.
	Starting New post Graduate Disciplines and Incresing PG Seats & other Equipments for Various Department **SECOND CALL**	7-12-12	2-1-13 upto 1-00 Pm.	2-1-13 upto 3-00 pm.

निश्चित दिनांक एवं समय तक प्राप्त निविदायें चिकित्सा महाविद्यालय भोपाल के सभागृह में खोली जावेगी जिसमें निविदाकार या उनके प्रतिनिधि उपस्थित रह सकते है ।

अधिष्ठाता
गॉधी चिकित्सा महाविद्यालय भोपाल

.SECTIONII:INSTRUCTIONTOBIDDER TABLEOFCLASSES

A. Introduction

1. Scope of Work

1.1 The Dean Gandhi Medical College Bhopal M.P. require Equipments (Machinery Instruments and other items) for various Departments of Gandhi Medical College, Bhopal & associated Hospitals Bid is issued for procurement of equipment (list of equipments enclosed) 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 The Machines / Equipments have to be Supplied and installed to the various department of Gandhi Medical College Bhopal & associated Hospitals.

2. Eligible Bidders

2.1 The invitation for Bids is open to all eligible bidders.

2.2 Bidders should not be associated, or have been associated in the past, directly or indirectly with a firm or any of in affiliates which have been engaged by the Purchaser to provide consulting service for the preparation of the design, specification and other to be used for the procurement of the goods to the purchaser under this invitation of Bids.

2.3 Government owned enterprise in the Purchaser's country may participate only if they are legally and financially autonomous, if they operates under commercial law, and if they are not a dependent agency of the Purchaser.

2.4 The tenders shall clarify/state whether he/they are manufacturer, accredited agent or sole representative indenting 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.

3. Eligible Goods and Services

3.1 All goods and ancillary services to be supplied under the Contract shall be from 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 Bidder.

4. Cost of Bidding

4.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and **Dean Gandhi Medical College Bhopal** (hereinafter referred to as "**the Purchaser"**) will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

B. The Bidding Documents

5. 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:

(a) Instruction to Bidders (ITB);
(b) General Conditions of Contract (GCC);
(c) Special Conditions of Contract (SCC);
(d) Bid Form;
(e) Annexure-I (Commercial Tax Clearance Certificate);
(f) Annexure-II (Manufacture Authorization Form);
(g) Annexure-III (Declaration / Undertaking Form);
(h) Annexure-IV (Proforma for Performance statement);
(i) Annexure-V (Annual Turnover Statement);
(j) Annexure-VI (Specification of required. Various equipments
(k) Annexure-VII (Performance Security form);
(l) Annexure-VIII (Contract Agreement form);
(m) Annexure-IX (Details of Manufacturing Unit);
(n) Annexure-X (Price Schedule); and
(o) Annexure-XI (Price Schedule for CMC (include free labour repair, other service and spare parts);
(p) Annexure-XII (Details of Service Centre in Bhopal / M.P.);
(q) Annexure-XIII (Check list A,B,C);

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 submissions of a bid not substantially responsive to the Bidding Documents in every respect will be at the Bidders risk and may result in rejection of its bid.

5.3 The Bidding document is not transferable

6. Clarification of Bidding Documents-

6.1 A Prospective Bidder requiring any clarification of the Bidding Documents may notify the Purchaser in writing or by Fax at the Purchaser's mailing address indicated in the invitation for Bids. The Purchaser will respond in writing to any request for clarification of the Bidding Documents, which it receives not later than 10 days prior to the dead line for submission of bids prescribed by the purchaser.

7. Amendment of Bidding Documents

7.1 At any time prior to the deadline for submission of bids, the purchaser may , for any reason, whether at it on initiative or in response to a clarification requested by the prospective bidders, modify the bidding documents by amendment.

7.2 The Prospective bidders will be notified of the amendment through mail, and will be binding on them.

7.3 In order to allow prospective bidders reasonable time in which to take the amendment in to account in preparing their bids , the Purchaser, at its discretion , may extend the deadline for the submission of bids.

C. Preparation of Bids

8. Language of Bid

8.1 The Bid prepare by the bidder, as well as all correspondence and documents printed literature and leaflets relating to the bid exchanged by the Bidder and the the purchaser shall be written and in English/Hindi language. Numeric numbers should always be in english only.

9.Documents Comprising the Bid

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

(a) A bid Form and price schedule completed in accordance with ITB Clause 10,11 and 12;

(b) Documentary evidence established in accordance with ITB clause 13 that the bidder is eligible and is qualify to perform the contract if its bid is accepted;

(c) Documentary evidence established in accordance with ITB clause 14 that the good sand ancillary services to be supplied by the bidder are eligible goods and services and conform to the bidding documents ; and

(d) Bid Security furnished in accordance with ITB clause 15

10. Bid Form

10.1 The Bidders shall complete the Bid form and the appropriate Price Schedule Furnished in the Bidding Documents indicating for the goods to be supplied, a brief description of the goods, their country of origin and prices.

11. Bid prices

11.1 Bid has been called for the various equipments / machines given in the specification in technical annexure VI The bidder should quote the price for the equipments/machines offered for. The specification of the equipments/machines should be as per details given in annexure VI Any variation on lower side may result in the rejection of the tender.

11.2 Prices (inclusive of excise duty/ custom duty transportation packing, insurance, installation, training, loading.- Unloading warranty service charge , inspection and any incidental charges, but exclusive of CST/VAT) should be quoted for each of the required equipments/ machine separately on door delivery basis according to the unit ordered. Tender for the supply of equipments etc. with cross condition like “AT CURENT MARKET RATES “ shall not be accepted. Handling, clearing, transport charges etc. shall not be paid . The delivery should be made as stipulated in the supply order placed with successful bidders conditional tenders will not be accepted.

11.3 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. Alterations/over-writings, unless legibly attested by the tenderer, shall disqualify the tenders. The tenders should be signed by the tenderer himself/themselves or his/their authorized agent on his/their behalf (Authorization may be enclosed, if applicable) under his stamp. 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.

11.4 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 DGS & D Price (MRP) Rate Constricting 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.

11.5 To ensure sustained supply without any interruption the The purchaser, reserves the right to split orders for supplying the requirements among more than one bidders, provided the prices and other conditions of supply are equal.

11.6 The prices quoted and accepted will be binding on the bidder for the stipulated period and any increases in the price will not be entertained till the completion of this tender period. Cross Conditions such as "SUBJECT TO AVAILABILITY" " SUPPLIES WILL BE MADE US 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.

12. Bid Currencies

12.1 Prices shall be quoted in Indian Rupees.

13. Documents establishing Bidder's eligibility and qualification

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 qualification to perform the Contract if its bid is accepted.

13.2 The documentary evidence of the Bidder's qualifications to perform the Contract if its bid is accepted, shall establish by "the Purchaser" satisfactions.

(a) Bids may be submitted by the primary manufacture or importer or their authorized distributor provided the bid is accompanied by a duly notarized letter of authority from the primary manufacturer/importer. In case of authorized distributor the bidder should have minimum three years association with manufacturer / importer (as per authorization form given in Annexure II)

(b) Documentary evidence for the Registration of the company with details of the Name, Address, Telephone Number, Fax Number, E-mail Address of the Managing Director / Partners / Proprietor and Name, Address, Telephone number, fax, email of primary manufacturer/ 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. Authorization letter nominating a responsible person of the bidder to transact the business with the purchaser.

(c) 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 number 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. Leaflets, literatures, should invariably be attached for ready reference clearly marking the item code no.

(d) The Bidder/manufacturer should have at least 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.

(e). 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.

(f). 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.

(g). Sales Tax / VAT Clearance certificate, as on 31.03.2011/12 (as per form attached in Annexure-I).

(h). Details of Manufacturing Unit I Annexure - IX. The details containing the name and address of the premises where the items quoted are actually manufactured.

(i). Documents, if any, to show that the manufacturing unit/importer has been recog11ized, by WHO, UNICEF, ISO/ or any other Certificate 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.

j. 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.

k. . Annual turnover (i.e. turnover for each year separately) in the last three financial years shall not be less than Rs.100.00 Lacs .for Manufacturer and Rs. 50.00 Lacs for the authorized distributor. Annual turnover statement for 3 years submitted in the format given in Annexure- V certified by the Auditor/CA.

l. In case of imported equipment IEC certificate of importer / bidder shall be submitted.

m. Concern / Company have not been debarred / blacklisted either by The purchaser 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.

n. All documents should be seal and stamped.

14. 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.

15. Bid Security

15.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, the bid security which shall be equal to 3% of the total aggregate value of Item's of Equipments tendered for, subject to a maximum of Rs 3.00 Lacs . (Rs. three Lacs Only) No concession / exemption shall be allowed F.D.R. should be attached. The aggregate values of items tendered for and 3% amount of it should be shown separately in Envelop "A.

15.2 The bid security is required to protect the Purchaser 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, Gandhi. Medical College, Bhopal: of any Nationalised Bank.

15.4 Any bid not secured in accordance with ITB Clause 15.1 and 15.3 above will be rejected by the "The Purchaser" 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 "The Purchaser" 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.

16. 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 purchaser pursuant to ITB clause 21. A bid valid for a shorter period shall be rejected by The purchaser as non-responsive. This price or negotiated price on acceptance shall remain fixed till contract period or till further order.

16.2 In exceptional circumstances, the purchaser may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. A Bidder may refuse the request without forfeiting its 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.

D. Submission of Bids

17. 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:-

Envelops - D: Main Tender Envelop
(E.M.D. in the form of F.D.R./DD only)

(1) Fixed Deposit for 18 Months 3% of total aggregate value of item or equipments tendered for as E.M.D. **(i**ssued by Nationalized bank in the name of Dean, Gandhi Medical College Bhopal. (Refundable). (Any other instrument for example like Cheque will not be accepted).
A statement of Aggregate value of total items tendered for and value of 3% (E.M.D. maximum of Rs. one Lack.)

· Without submission of E.M.D. the. tender will be summarily rejected as per rules.

(2) **Tender document fee if uploaded from website Rs 5000.) Those bidders who have already submittted their tender document & tender fees in response to our tender dated 12/10/2012 of Rs. 5000/- in previous tender need not submit this fees again however they are required to enclose the photocopy of the reciept of the Tender document fees.**

· In no case the tender cost fee should be mixed with E.M.D. amount. Fee cost is not refundable.

Essential Documents as mentioned below.

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3. 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 falling which the tendere4' price bid will not be opened. The bidder has to submit name of item and the code number in the format given below.

Sr. No.	Item Code	Name of Equipment

4 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.
Authorization letter from manufacturer authorizing a person to transact a business with the purchaser.
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. Bidders should have the registration under Commercial Tax Authority should be attached.

6. Sales Tax VAT Clearance certificate, as on 31.03.2012 (as per form attached in Annexure-I).
(Note: Sales Clearance from sales tax department up to 31.03.2012 must be attached with this annexure)

7. Annexure-II (Manufacture Authorization Form)

8. Annexure-III (Undertaking Form / Declaration Form)

9 Annexure-IV (Proforma for installation in last Three years of the manufacturers.

10. Annexure-V (Annual Turnover Statement)
11. Annexure - IX (Details of Manufacturing Unit)
12 Annexure - XII (Details of Service Centre at Bhopal/M.P.)

13. The bidder should also submit national & international quality certificates like ISI/CE/C ISO-9002, IP/BP etc" mark / lEC standard or equivalent certificate of quoted product, if available.
14. Concern / Company have not been debarred / blacklisted either by the purchaser or by any State Government or Central Government Organization. this effect shall be submitted by the concern / company. Affidavit that the firm has no vigilance case / CBI case pending against him / s. Affidavit that the firm has not supplied the same item at the lower rate than quo-~" tender to any Govt. / Semi Govt. or any other organization.
15. 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.Please submit Only Annexure V (as whole tender documents from page No. 1 to 57)as acceptance of all terms and conditions of tender from page No. 1 to 57, (This Section V page will be considered as acceptance of all tender terms and condition from the bidder) **(Save Paper Save Environment)**.
16. Statement of good financial standing from bankers.
17. In case of imported equipment IEC certificate of importer / bidder shall be submitted.
18.. Any other document if required.

Technical/Financial bid documents must not be submitted with this envelope.

Envelop - B: (Technical Bid)This envelop must be submitted department wise.

(i) Technical bid for the quoted equipments etc. should be signed and stamped on each page. 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.

(ii) 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

(iii) Literature of original catalogue of the product attached for reference in two copies.

(iv) Quality certificates such as CE/ US FDA product wise.

Envelop - C: (Financial Bid) This envelop must be submitted department wise.

i. Financial bid for the quoted equipments etc. should be signed and stamped on each page (ANNEXURE-X)

ii. CMC charges as per Annexure Xl.

iii. Bidder should show recurring expenditure of each equipment separately.

All the three envelops sealed in main envelop i.e. marked **ENVELOP-D"TENDERFOR EQUIPMENTSETC."**All the envelopes A, B. C. 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. i.

Reference No. of the tender

ii. Tender regarding _____

iii. Due date of submission of tender form_____

iv. Due date for opening of the tender _____

v. Name of the firm_____

NOTE:TENDERSUBMITTEDWITHOUTFOLLOWINGTHEABOVE'PROCEDURESWIL BE SUMMARILYREJECTED.

17.2 PRICE BID-

The Bidder should furnish the following:

i) The rate quoted per unit (landed price) in Annexure-X (Suggested sample proforma of price schedule) shall be inclusive of Excise Duty / Custom Duty, freight, packing, insurance, inspection & testing charges etc. exclusive of VAT and should be F.O.R. destination.

ii) The rate quoted in column 8 of annexure (suggested sample proforma of price schedule) 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.

iii) Bidder has to quote rates strictly for the items which are mentioned in the tender.

iv) Rates quoted for items other than mentioned in the tender form then that particular item will not be entertained.

v) If a bidder has quoted same rates for an equipment manufactured by two different manufacturers then the choice to make the contract from any of them or both will be the discretion of The purchaser.

vi) The rates of each item should be quoted in figures as well as in words also otherwise the tender is liable to be rejected.

vii) The bidder/parent company will have to inter into comprehensive Maintenance Contract (include free labour, repair, other services & spare parts) for the next seven years after the expiry of three years warranty period in Annexure - XI.

(viii) The bidder should quote equipments which will have guarantee / warranty of atleast 3 years, equipments which have less than 3 years warranty will not be entertainment and so should not be quoted.

ix) Bidder should show recurring expenditure of each equipment separately.

18. Deadline for Submission of Bids

18.1 Bids will not be accepted after the time and date specified in the invitation for Bids (Section I).

18.2 The The purchaser may, as its discretion, extend the deadline for submission of the bids by amending the Bid Documents in accordance with ITB Clause - 7 in which case all right and obligations of the The purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

18.3 The The purchaser will not be responsible for any delay or non-receipt of tender documents.

19. Late Bids

19.1 No Bid shall be considered after the last date and time of submission of bid

20. Modification and Withdrawal of Bids

20.2 No bid may be modified subsequent to the deadline for submission of bids.

20.3 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. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid security, pursuant to ITB Clause 15.7

E. Bid Opening and Evaluation of Bids

21. Opening of Bids by the purchaser

Opening of Bid process:

21.1 Bid will be opened on the day, date & place specified by the The purchaser.

21.2 All bidders are entitled to be present at the date and time & place for opening of Bids.

21.3 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 The purchaser, the Bids shall be opened at the appointed time and location on the next working day.

21.4 Opening of bid will be sequential process.

21.5 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 and C, E nvelop " 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 at the earliest of opening of bid and will be communicated simultaneously to those who qualify for opening of bid. Technical and Price bid will be submitted separately. 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 the purchaser. 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 only for those bidders whose bid will be found technically responsive after demonstration. Opening of date of price bid will be communicated separately only to those who qualify and will be displayed on the specified website.

21.6 The Bidders' names, presence or absence of the requisite bid security will be announced at the opening of Technical Bid.

21.7 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.

22. Clarification of Bids

22.1 During evaluation of bids, the The purchaser 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 The purchaser 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 The purchaser in the evaluation of the bids.

23. Preliminary Examination

23.1 The the purchaser 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.

23.2 The purchaser 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.

23.3 Prior to the detailed evaluation, pursuant to ITB Clause 24, the The purchaser 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.

23.4 If a bid is substantially responsive, the The purchaser 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.

23.5 If a bid determined as not substantially responsive, it will be rejected by the The purchaser and may not subsequently be made responsive by the bidder by correction of the nonconformity.

24. Evaluation and Comparison of Bids

24.1 The purchaser 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 equipment for determining the Lt rate (Lowest rate).

24.2 Purchase will also be made from SC / ST firms as per State Government rules.

25. Contacting the The purchaser

25.1 Subject to ITB Clause 22, no Bidder shall contact the The purchaser on any matter relating to its bid, from the time of the bid opening to the time Rate Contract is awarded.

25.2 Any effort by a Bidder to influence the The purchaser 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 The purchaser, it should do so in writing.

F. Award of Contract

26. Post Qualification

26.1 Based on the qualification criteria listed in ITB Clause 13, the The purchaser will determine to its satisfaction whether the Bidder selected as having submitted the lowest evaluated responsive bid is qualified to satisfactorily perform the Contract.

26.2 The determination will take into account the Bidder's financial, technical, and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder. Pursuant to ITB Clause 13, as well as such other information as the The purchaser deems necessary and appropriate.

26.3 The The purchaser shall ask for demonstration of the quoted equipment. The cost of demonstration shall be born by the bidder. Day, date & place of demonstration shall be decided by R.C.A.

26.4 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 The purchaser will proceed to the next bid to make a similar determination of that Bidder's capabilities to perform the contract satisfactorily.

26.5 The tenderness shall demonstrate the quoted model of the equipments during the technical evaluation on the day, date & place specified, failing which their bids/offer shall be rejected.

27. Award Criteria (Negotiation)

27.1 Subject to ITB Clause 29 - The the purchaser will award rate contract to the successful bidders on lowest evaluated prices or the price approved by the Purchase Committee after negotiation from L, bidder, whichever is lower, based on the performance, quality, capacity, quality control facilities, delivery period, and geographical coverage of the supply etc.

If successful bidder shall not be capable, then in this respect the decision of the committee will be final which may go up to L-3 bidder.

28. Purchaser's Right to vary Quantities

28.1 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.

29. The purchaser's Right to Accept any Bid and to Reject any or all bids

29.1 The purchaser reserves the right to accept or reject the tender for the supply of all items of equipments or for anyone 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. The purchaser's action.

30. Notification of Rate Contract

30.1 Prior to the expiration of the period of bid validity, the The purchaser will notify the successful Bidder in writing by registered letter or fax or e-mail, that its bid has been accepted.

30.2 The notification of Rate Contract will constitute the formation of the Contract.

30.3 Upon the successful Bidder's signed Rate Contract pursuant to ITB Clause 31, the The purchaser will promptly notify each unsuccessful Bidder and will discharges its bid security, pursuant to ITB Clause 15.

30.4 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 The purchaser. The The purchaser will respond in writing to the unsuccessful Bidder.

31. Signing of Rate Contract

31.1 At the same time the The purchaser will inform to the successful Bidder that its bid has been accepted the purchaser will send the Bidder the Rate Contract Form provided in the bidding document incorporating all agreements between the parties.

31.2 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. l00/- (stamp duty to be paid by the Bidder) and return it to the purchaser.

31.3 The validity of Rate Contract will be one year and may be extended for further period as agreed mutually unless revoked.

32. Performance Security & Inspection Charges

32.1 Within 15 days of the receipt of firm order from the purchaser or the date specified by the purchaser, the successful Bidder shall furnish the performance security and inspection charges in accordance with the Clause 7 of General Conditions of Contract.

32.2 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.

33. Placement of Supply Order

33.1 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 27.1 will be considered.

33.2 To ensure sustained supply without any interruption the Purchaser, reserves the right to split orders for supplying the requirements among more than one L-l bidder.

34. Corrupt or Fraudulent Practices

34.1 For the purpose of this provision, the terms set forth as follows:

(i) "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 (ii) "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;

(iii) 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.

(iv) 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.

34.2 Furthermore, Bidders shall be aware of the provision stated in sub clause 21.4 of the General Conditions of contract.

SECTIONIII:GENERALCONDITIONSOFCONTRACT
TABLEOFCLAUSES

General Conditions of Contract

1. Definitions

1.1 In this Contract, the following terms shall be interpreted as indicated:

(a) "Rate Contract" means the agreement entered into between the The purchaser 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.

(b) "Price" means the price payable to the Supplier for the full and proper performance of its contractual obligations.

(c) "Goods" means all the equipments (Machines, instruments & Other Items) etc., which the supplier is required to supply to the purchaser under the Contract.

(d) "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.

(e) "GCC" means the General Conditions of Contract contained in this section.

(f) "scc" means the Special Conditions of Contract.

(g) "The Purchaser" means the Organization purchasing the goods, as named in SCe.

(h) "The Purchaser's Country" is the country named in SCC.

(i) "The Supplier" means the individual or firm supplying the Goods and Services under this Contract.

(j) "The purchaser" means the Dean Gandhi Medical College, Bhopal Chairman, Purchase Committee.

(k) "The Project Site" where applicable, means the place or places named in SCC.

(l) "Day" means calendar day.

2. Applications

2.1 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

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

3.2 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.

3.3 The origin of Goods and Services is distinct from the nationality of the Supplier.

4. Standards

4.1 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 the purchaser. should be supplied.

4.2 Genuine EQUIPMENTS (Machinery, Instruments & Other Items) 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.

4.3 While quoting the rates of MACHINERY, INSTRUMENTS & OTHER ITEMS etc. as enclosed list, the name of the manufacturer, must be mentioned otherwise the tender is liable to be rejected.

4.4 The rates of every item should be quoted from standard and well reputed firms / companies and they should be minimum possible.

4.5 For MACHINERY, INSTRUMENTS & OTHER ITEMS etc. means should bear quality assurance certification like ISO 9002 of CE Mark of ISI standardization.products passing USFDA criteria shall be preferred.

4.6 Software and Hardware Upgradation - Free Digital Up-gradation of software (all update & upgrades) up to 5 years.

4.7 Voltage stabilizer or UPS & digital technology should be supplied with the equipments required it.

4.8 Technical specification of equipments / work mentioned is basic, however, equipments of higher specifications may be quoted at no extra cost.

4.9 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.

4.10 Circuit diagram with operator's and service manual must be enclosed along with the equipment.

4.11 Names of the institution in India, where quoted equipment / work has been supplied / installed and working satisfactory done during last three years must be attached.

4.12 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.

5. Use of Contract documents and information

5.1 The supplier shall not, without the The purchaser'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 The purchaser 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.

5.2 The Supplier shall not, without the The purchaser'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.

5.3 Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the The purchaser and shall be returned (in all copies) to the The purchaser on completion of the Supplier's performance under the contract if so required by the The purchaser.

6. Patent Rights

6.1 The Supplier shall indemnify the The purchaser 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.

7. Performance Security

7.1 The supplier shall furnish performance security in the amount specified in SCC to the purchaser as specified in GCC 1.1 (g).

7.2 The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

7.3 The Performance Security shall be denominated in Indian Rupees and shall be in the form of Demand Draft/FDR/Bank Guarantee of Nationalized Bank located· in India in the prescribed form provided in bidding document or another acceptable to the purchaser in favour of Purchaser till completion of warranty period.

7.4 The performance security will be discharged by the purchaser and returned to the Supplier not later than 90 days following the date of completion of the Supplier's satisfactory performance obligations, including warranty obligations, unless specified otherwise in sec.

8. Inspection and Tests

If purchaser wishes:

8.1 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.

(i) The Supplier shall notify the purchaser or its representative at least 10 days prior to the date when Goods are available for inspection.

(ii) 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.

(iii) 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.

(iv) 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.

(v) Nothing in Clause 8 shall in any way release the supplier from any warranty or other obligations under this Contract.

9. Packing

9.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the' contract. 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.

9.2 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. .

10. Delivery and Documents

10.1 The supply should be completed within 21 days 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.

10.2 It shall be the responsibility of the Supplier to make good for any shortage/damage at the time of receipt at designated place.

10.3 The details of shipping and/or other documents to be furnished by the Supplier are specified in SCC.

10.4 The delivery of EQUIPMENTS should be made at the point / place specified by the Purchaser in Purchase Order.

10.5 the successful bidders should strictly adhere to the following delivery schedule Supply, Installation & Commissioning should be effected within a fortnight from the date of supply and this clause should be strictly adhered to failing which necessary administrative action as deemed fit under rules will be taken against the defaulter.

10.6 Supply must be toto i.e. not in fraction.

11. Insurance

11.1 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.

12. Transportation

12.1 Where the Supplier is required under the Contract to transport the Goods to Gandhi Medical College/Sultania Zanana Hospital/Hamidia Hospital Bhopal defined as Project site, transport to Bhopal 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.

12.2 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.

12.3 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.

13. Warranty

13.1 The Bidder shall provide on site warranty of the' equipment for the period of three years from the date of satisfactory 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 three years. Warranty shall clearly indicate that what items covered by it and item not covered in warranty. The warranty shall also include "on call service" which should not exceed three days 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 three days.

13.2 The Purchaser shall promptly notify the Supplier in writing of any claims arising under the warranty.

13.3 Upon receipt of such notice, the Supplier shall, with all reasonable speed, replace the sub standard equipments, without cost and to the satisfaction of Purchaser.

13.4 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.

13.5 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.

13.6 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.

13.7 UPTIME GUARANTEE: The firm should provide uptime guarantee of95%.

13.8 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 THREE YEARS after handing over the unit to the Institute. If accessories /other attachment of the system are procured from the third paIty , then the vendor must produce cost of accessory/other attachment and the CMC from the third party separately along with the main offer and the third party will have to sign the CMC with the Purchaser if required. In no case instrument should remain in non working condition for more than 7 days, beyond which a penalty of 2 % 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.

13.9 Guarantee I Warranty period: The tenderers must quote for 3 years warranty from the date of completion of the satisfactory installation.

Also the Bidders should submit their quote for subsequent 7 years) / 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 / CMC.

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So the price of CMC should be quoted according to the cost of equipment.

13.10 SPARE PARTS**:** The spare parts should be of standard quality. The bidder must take guarantee of availability of supply of spare parts upto 10 years.

13.11 TRAINING: Training of equipments within the stipulated time should be done by the supplier 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.

13.12 The Tenderers should clearly indicate the name of the Manufacturers / Beneficiary of the Letter of Credit, country of origin, place of shipment / air freightrnent etc.

13.13 Local agents quoting on behalf of their foreign suppliers must attach authority letter in their favour.

13.14 Successful tenderers will have to furnish performance Bank Guarantee for 10% contract value from any Nationalized Bank valid for the warranty period.SUBJECT TO MAXIMUM OF 2 LAKCS PER DERARTMENT

13.15 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.

13.16 Equipment should be brand new & of latest technology along with digital technique wherever applicable.

13.17 The the purchaser reserves the right to increase the accessories and their numbers, payment will be made only for ordered accessories. Bidder shall enclose undertaking from the company providing the equipments that it will undertake to provided warranty/ /CMC for the required period of time.

14. Payment

14.1 The method and conditions of payment to be made to the Supplier under the contract shall be specified in the SCC.

14.2 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.

14.3 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. Performa invoice should also be submitted.

14.4 Payment shall be made in Indian Rupees.

14.5 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.

14.6 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.

14.7 Supply of equipments means - installation and commissioning and also test running at site. No separate charges will be paid separately on this account.

14.8 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

15.1 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.

15.2 Recurring expenditure of the machine / equipment should be mentioned.

16. Change orders

16.1 The The purchaser 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 anyone or more of the following:

16. 1. the method of shipping or packing, installation;
2. Any other terms & conditions in public interest.

16.2 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.

16.3 The Purchase Orders on approved rates will be placed by the Purchaser.

17. Contract Amendments.

17.1 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

18.1 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

19.1 Delivery of the Goods and performance of the Services shall be made by the Supplier III accordance with the time schedule specified by the Purchaser in the Supply order.

19.2 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.

19.3 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

20.1 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 SCe. 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:

21.1 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 22nd day thereof from the date of issue of supply order - 3% of supplied ordered item.
2. Second & maximum extension for an additional 21 days from the date of issue of supply order - 5% of supplied ordered item. .

21.2 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.

21.3 The purchaser 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.

21.4 If the Supplier, in the judgment of the The purchaser has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

F or 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.

21.5 For infringement of the stipulations of the contract or for other justifiable reasons, the contract may be terminated by the The purchaser, and the supplier shall be liable for all losses sustained by the The purchaser, in consequence of the termination which may be recovered personally from the supplier or from his properties, as per rules.

21.6 Non performance of any of the contract provisions will disqualify a firm to participate in the tender for the next five years.

21.7 In all the above conditions, the decision of the. The purchaser shall be final and binding.

22. Force Majeure

22.1 . 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.

22.2 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 The purchaser either in its sovereign or contractual capacity, wars or revolution, fires, floods, epidemics, quarantine restrictions and freight embargoes.

22.3 If a Force Majeure situation arises, the Supplier shall promptly notify the The purchaser in writing with adequate proof of such conditions and the cause thereof. Unless otherwise directed by the The purchaser 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

23.1 The The purchaser 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 The purchaser.

24. Termination for Convenience

24.1 The The purchaser, 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 The purchaser's convenience, the extent to which performance of the Supplier under the contract is terminated, and the date upon which such termination become effective. .

24.2 The Goods that are complete and ready for shipment within 21 days after the Supplier's receipt of notice of termination shall be accepted by the The purchaser at the Contract terms and prices. For the remaining Goods, the The purchaser may elect:

i) to have any portion completed and delivered at the Contract terms and prices; and / or
ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and for materials and parts previously procured by the Supplier.

25. Resolution of Disputes

25.1 The purchaser 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.

25.2 If, after thirty (30) days from the commencement of such informal negotiations, the The purchaser 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.

25.3 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

26.1 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 The purchaser, 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 The purchaser, and

ii the aggregate liability of the supplier to the The purchaser, 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

27.1 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

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

29. Notices

29.1 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 SCe.

29.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

30. Taxes and Duties

30.1 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.

30.2 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/V AT) 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

31.1 . 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.

31.2 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 The purchaser 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 purchaser 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.

31.3 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 The purchaser 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.

31.4 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

32.1 In respect of all disputes or claims related with Rate Contracts out of or under this contract, Bhopal Court alone shall have jurisdiction to entertain the same.

32.2 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.

SECTIONIV:GENERALCONDITIONSOFCONTRACT

TABLEOFCLAUSES

SpecialConditionsofContract

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 Dean & Superintends of Associated Hospitals of Gandhi Medical College, Bhopal 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 (1) (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.

2.2 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 90 days following the date of completion of the supplier's satisfactory performance obligations including the warranty obligations under the contract.

2.3 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:

A. The inspections shall be carried out by the appointed Technical Committee or Inspection Agency at the premises of the suppliers / go down or stores of the supplier / at point of delivery / installation. Inspection and testing charges for the above purpose shall be borne by the supplier.

B. 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.

C. The machine will be dispatched only after the inspection procedure has been followed and inspection note issued to accept the consignment.

D. 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.

E. 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.

F. 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.

G. 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.

H. For equipments labelled as NOT OF STANDARD QUALITY, the concerned administration 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. / Comprehensive (include free labour, repair, other services & spare parts) Maintenance Contract (CMC) & Training

4.1 Comprehensive (include free
lab our, repair, other services & spare parts) Maintenance Contract for the next seven years after the expiry of three years warranty period in Annexure-XII.

4.2 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.

4.3 The bidder should take guarantee of the availability of all spare parts for a minimum period of 10 years from the date of installation.

4.4 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.

5.1 Packing should be able to prevent damage or deterioration during transit.

5.2 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.

(i) Three copies of the supplier invoice showing Goods description, quantity, unit price, and total amount.

(ii) Acknowledgement of receipt of goods from the consignee(s).

(iii) Installation certificate signed by respective consignee.

(iv) Manufacturer's / supplier's warranty certificate.

(v) Inspection certificate issued by the nominated inspection agency, and the Supplier's factory inspection report; and

(vi) Certificate of origin.

(vii) 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:

(a) Initiate and pursue claim till settlement, and

(b) Promptly make arrangement for replacement of any damaged items 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:-

8.1 No advance payments towards cost of equipments etc. will be made to the supplier.

8.2 All payments shall be made by way of crossed cheques drawn in favour of the supplier.

8.3 All bills / invoices should be raised in triplicate in the name of Concerning Purchaser.

8.4 Payment will be made after completion of supply of goods / service 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.

8.5 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)

10.1 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.

A First penalty: 22nd day from the date of issue of supply order - 3% of supply ordered item.

B. Second penalty: After additional 21 days from the date of issue of supply order - 5% of supply ordered item.

10.2 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.

10.3 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 supply on the total value of supply to that particular / other designated place.

10.4 Supply must be in toto i.e. not in fraction.

11. Resolution of disputes (GCC Clause 25)

Add as GCC clauses 25A and 25.5 the following:

25.4 The dispute resolution mechanism to be applied pursuant to GCC clause 25 shall be as follows:

(a) In case of dispute or difference arising between the The purchaser / 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.

25.5 The Venue of Arbitration shall be at concerned place of next higher authority of R.C.A / Purchaser.

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 The purchaser / 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 The purchaser / 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)

Supplier shall regularly 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).

SECTION V
Ref. Clause No. 17.1(p) of ITB

BIDFORM

This Bid Form is to be submitted against acceptance of all terms and conditions of tender from page No. 1 to 57
(Save Paper Save Environment)

To,

The Dean,
Gandhi . Medical College
Bhopal, (M.P.)

I/We, the undersigned, declare that:

i. I/We have examined the bidding documents the receipt which is hereby acknowledged.

ii.. 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.

iii. I/We undertake, if our bid is accepted, to deliver the goods in accordance with delivery period specified in the supply order.

iv. I/We agree to abide by this bid for a period of 180 (One Hundred Eighty) 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.

v. If our bid is accepted, we commit to obtain a performance security in accordance with GCC clause 7 & SCC clause 2 for the due performance of the contract.

vi. 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.

vii. I/We undertake if at any time, it is found that any information furnished by us to the The purchaser, either in our bid or otherwise, is false, the The purchaser 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.

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

ix. I/We hereby submit our tender for the _____

x. I/We now enclosing herewith the E.M.D. No._____dated _____

xi. I/We have noted that overwritten entries shall be deleted unless duly cut & re-written and initialed.

xii. Tenders are duly signed (No thumb impression should be affixed).

xiii. 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 ..... 2011.

(Signature) .....
(in the capacity of:.....)
Duly authorized to sign for and on behalf of.....

Witness

Witness

TABLEOFANNEXURES

ANNEXURE-I

Ref. Clause No. 17.1 (g) of ITB

FORM OF CERTIFICATE OF SALES TAX / V A T VERIFICATION TO BE PRODUCE}) BY AN APPLICANT FROM THE CONTRACT OR OTHER PATRONAGE AT THE DISPOSAL OF THE GOVERNMENT OF MADHYA PRADESH

(Tobefilledupbytheapplicant)

01. Name of style in which the applicant is addressed or assessable to sales tax / VAT addresses or assessment

02. a. Name and address of all companies, firms or associations or persons in which the applicant is
interested in his individual or fiduciary capacity

b. Places of business of the applicant (all places of business should be mentioned)

03. The Districts, blocks and division in which the applicant is assessed to sales tax / VAT (all places of business should be furnished)

04. a. Total contract amount or value of patronage received in the preceding three years
2009-10
2010-11
2011-12

b. Particular of sales - Tax / VAT for the preceding three years

Year	Total 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					

c. If there has been no assessment in any year, whether any returns were submitted? if yes, the division in which the returns were sent?

d. Whether any penal action or proceeding for the recovery of Sales tax / VAT is pending?

e. The name and address of Branches, if any:

f. **sales tax clearance up to 31.03.2012 issued by Sales Tax Department must be compalsory attached with this annexure.**

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

Signature of Applicant:
Address:
Date:

ANNEXURE - II
Ref. Clause No. 17.1 (q) 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.

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

TobeAttestedbyNotary.

ANNEXURE - IV

Ref. Clause No. 17.1(e) of ITB

PROFORMA FOR LIST OF INSTALLATIONS IN LAST THREE YEARS OFTHE MANUFACTURER'S

Name of the Manufacturer _____

_____

Sl. No.	Name of the Purchaser & Address with phone number	Name of installed machines and model	Date of installation	Quantity
	1	2	3	4
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				

Signature and seal of the Bidder

Annexure-V
Ref. Clause No. 13.3(I) 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	Compliance / Deviations
1.				
2.				

ANNEXURE-VII
Ref. Clause No. 7.3 of GCC

PERFORMANCE SECURITY FORM
(to be filled after award of contract)

To: .... (Name of Purchase)

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

hereinafter called "the supplier" has undertaken, in pursuance of Contract No. ..... dated..... 2012 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..... 2012

Signature and Seal of Guarantors
.....
.....
Date 2012
Full Address of the Bank:
.....
.....

ANNEXURE-VIII
Ref. Clause No.3l of ITB

CONTRACTAGREEMENTFORM

(Tender No._____)

(to be filled after award of contract)

THIS CONTRACT AGREEMENT made the .....day of .....2012 between The purchaser (Dean,Gandhi Medical College, Bhopal M.P.) (Name of The purchaser) of India (country of The purchaser) (hereinafter called "the purchaser") 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 The purchaser 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 The purchaser and the supplier, and each shall be read and construed as an integral part of the contract:
   a. This contract agreement:
   b. Instructions of contract:
   c. General conditions of contract:
   d. Special conditions of contract:
   e. Technical Specifications:
   f. The supplier's bid and original price schedules
   g. The The purchaser'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.

6. 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.
7. 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.
8. The supplier shall agree to deposit 10% performance security, along with as mentioned at point no. 7 (above), in advance by cash / demand draft / FDR / Bank Guarantee, against the value of particular supply order for a period of 18 months.subject to maximum of 2 lacks department wise
9. 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.
10. The supplier shall supply the goods directly to the indentor / purchaser at the address given in the supply order.
11. 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.
12. 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.
13. 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 here to have caused this agreement to be executed III 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 Bhopal.

Signed, Sealed and delivered by the
Said..... (For THE PURCHASER)
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 (D 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 I authorized distributor shall be for the premises where items Quoted are actually manufactured I stoked.

ANNEXURE- X
Ref. Clause No. 17.2 of ITB

PRICES CHEDULE

Sr. No.	Code	Name of the Equipment / Item	Name of Manufacturer	Make & Model No.	Rate per unit (Landed Price) (Inclusive of excise / custom duty, transportation, insurance, and any incidental charges etc.)	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)

Place :

Date :

Signature
Name in Capital Letters
Designation

Note : This format of price schedule is a sample for the Bidder's Price schedule should not be submitted in Technical Bid, otherwise tender shall be rejected.

ANNEXURE- XI
Ref. Clause No. 17.2 (VII) of ITB

PRICE SCHEDULE FOR COMPREHENSIVE(INCLUDEFREE LABOUR,REPAIR,OTHERSERVICES&SPAE PARTS) MAINTENNACE CONTRACT(./C.M.C.)AFTER EXPIRY OF WARRANTY

(RATESSHOULDBEQUOTEDINPERCENTAGEOFTHEVALUEOFTHEMACHINE)

Sr. No.	Code No.	Name of the Equipment	For first year with spare parts and labour	For second year with spare parts and labour	For third year with spare parts and labour	For fourthyear with spare parts and labour	For fifth year with spare parts and labour	For sixth year with spare parts and labour	For seventh year with spare parts and labour
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

Place :

Date :

Signature
Name in Capital Letters
Designation

Note : This format of price schedule is a sample for the Bidder's Price schedule should not be submitted in Technical Bid, otherwise tender shall be rejected.

Prefer of CMC Separate perform Guarantee Three Years

ANNEXURE- XII
Ref. Clause No. 13.3 (g) of ITB

DETAIL OF SERVICE CENTER AT BHOPAL / M.P.

S.No.	Name & Place of Service Center	Address, Telephone, Fax & Email	No. of Service Engineer with Name / Mobile No.	Remark

Name & designation of the authorized signatory signature of the

authorised signatory

CHECK LIST FOR ENVELOPE A (Must Be Submitted as Page-1)

Check list for Terms and Conditions (To be filled by the bidder and submitted along with E n v e l o p - A) Page No. must be mentioned against each serial.

S.No.	Particulars	Yes	No	Enclosure No.
1.	Check List Page One.			
2.	Covering Letter of company/ bidder			
3.	EMD and Tender document fee.			
4.	**The Bidder Should submit list of quoted item as per format given**			
5.	Registration Certificate of Bidder (Such As Proprietor Ship, Partner, Article of Memo. etc)			
6.	Bidders registration under Commercial Tax Authority.			
7.	Annexure - I (Sales Tax Clearance Certificate)			
8.	Annexure-II (Manufacture Authorization Form)			
9.	Annexure - III (Declaration / Undertaking Form) _____			
10	Annexure-IV Proforma for installation in last three years of the manufacturer.			
11	Annexure - V (Annual Turnover Statement)			
12	Annexure - IX (Details of Manufacturing Unit) _____			
13	Annexure - XII (Details of Service Centre at Bhopal/M.P.)			
14	The bidder should also submit national & international quality certificates like ISI/CE/C			
15.	Concern / Company have not been debarred / blacklisted either by The purchaser or by			
16	Original Bid Form duly signed by authorized signatory as per Section V, duly sealed and			
17.	Statement of good financial standing from bankers			
18	In case of imported equipment IEC certificate of importer / bidder shall be submitted.			

CHECK LIST FOR ENVELOPE B (TECHNICAL BID) (Must Be Submitted as Page-1)

Check list for Terms and Conditions (To be filled by the bidder and submitted along with E n v e l o p - B) Page No. must be mentioned against each serial. **This envelop must be submitted department wise.**

S.No.	Particulars	Yes	No	Enclosure No.
1.	Check List Submitted as page No.1			
2.	Technical bid for the quoted equipments etc. should be signed and stamped on each page. 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.			
3.	A list of user of quoted equipments by the Principal Manufacturer for last three years contain the supplies related to the Govt. hospital/Medical Colleges / Public Sector ur hospital and other institutions of repute. Bidder should submit details of installation			
4.	Literature of original catalogue of the product attached for reference in two copies			
5.	Quality certificates such as CE/ US FDA product wise			

CHECK LIST FOR ENVELOPE C (FINANCIAL BID) (Must Be Submitted as Page-1)

Check list for Terms and Conditions (To be filled by the bidder and submitted along with E n v e l o p - c) Page No. must be mentioned against each serial. **This envelop must be submitted department wise.**

S.No.	Particulars	Yes	No	Enclosure No.
1.	Check List Submitted as page No.1			1

2.	Financial bid for the quoted equipments etc. should be signed and stamped on each page (ANNEXURE-X)			
3.	CMC charges as per Annexure XI.			
4.	Bidder should show recurring expenditure of each equipment separately.			

DEAN,
GANDHI MEDICAL COLLEGE BHOPAL

INDEX

DEPARTMENT OF FORENSIC MEDICINE

S.No.	Item Code No.	Name of Equipment	Specification	Comp./Divt.
		Cold storage	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 Bhopal. Three years warranty and after warranty two years free service contract.	
		Research Bnocular microscopes	• Colour corrected Infinity Optical System, Anti-fungus. • Microscope Stand with coaxial fine and coarse focussing mechanism. • Coarse motion Torque adjustable, Upper stage drive stop incorporated. • Trinocular Eyepiece Tube, Siedintorp	

			design, 30^0 inclined with • Built in 3 megapixal microscopic Digital Camera. • USB 2.0 PC connection. • Live Image resolution : 3.0 mega pixels (2048x1536 pixels) • Calibration slide. • Eyepiece High Eye point 10x20 mm with dioptre adjustment. • On both eyepieces & rubber eyecups (pair) • Reversed quintuple nosepiece. • EF-N Plan Achromat Objective 4x0.10 • EF-N Plan Achromat Objective 10x0.25 • EF-N Plan Achromat Objective 40x0.65, Spring loaded • EF-N Plan Achromat Objective 100x1.25, spring loaded, oil • Rectangular Mechanical Stage - 175x140 mm • Cross travel range of 76x50 mm in x & y direction. • With vernier scale, hard coated, right hand control. • Abbe condender, N.A 1.25 with iris diaphragm. • Built in Koehler illumination with 6V/30W Halogen Lamp and intense. • Vinyl Dust Cover, Immersion oil (5 ml) • Images plus software • Instant image capturing, real time full screen image	

			• Programmed interval captures, Video capture by time settings • Easy measurement calibration, Measurement in microns, inches mill • Length measurements, Ellipse rectangle, Irregular shape measurement • Perimeter, radius, Circumference Measurements, Angle measurement • Magnifier (zoom) function, Online files sending / receiving, Sound • Automatic image amalgamation, Image adjustment effects counting. • Data export, Report generating and print out, interactive file format. • Compatible computer, Photo quality printer and UPS for use Microscope.	
		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. - should have hot / cold water fixtures with wrist 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 220-240 volts AC 50 Hz **7. Disposer unit** - should have soulnoid valve, vacuum breaker with off/on switch control and internal overload protector. **8. Dimensions** - length 250-260 cm - width 75-80 cm - height - 90-100 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. 12. **Scale support bar -** must be able to hold the dial type weighing scale. 13. **Weighing scale** - dial type - must measure upto 5 kg. 14. **Polyurethane dissecting board** - 2 feet x $1^{1/2}$ feet x 1/4 inch. grained trace, white	
		LED TV	**LED TV** • Remote system • Flat panel • Wall mountable • Screen size 46 inch • Dolby digital sound	

			• Internet TV option • Ethernet connection • USB Tv option • Wifi adaptor support optional • DVl & HDMl input	
		Digital Camera	**Digital SLR Cameras** Type - Single lens reflex digital camera with interchangeable lenses. Effective pixels - 6 million (app) CCD-25x16 mm (App) Picture Angle equivalent in 35 MM format (App 1.5 times Lens focal length) View finder - Fixed eye-level mirror type Diopter adjustment - 1.6 - +0.5 m Eye point - 18-20 mm Frame coverage - >90% of lens (horizontal to vertical) Magnification -0.75 Lens aperture - instant return with preview. Lens Servo - Auto and manual focus Exposure metring - Three mode through the lens exposure metering. Matrix - 3D color matrix metering Range - 0.2EV (3D color matrix) Center weighed - 75% in center of frame Shutter - Mechanical and CCD electronic. Sensitivity - 200-1600 (ISO equivalent) Self timer - Electronically controlled timer with 2-20s duration Card - 1 GB	

			Video output - Selective Weight - App -500-600 GMS Power sources - Rechargeable battery with charger 7.4 VDC with separate adapter Dimension - 6"x4.5"x3" (App) Tripod socket - 0.25" (ISO) Monitor - 2.0" Polysilicon TFT LCD with brightness Adjustment Flash - SB800DX Zoom lens - 17-80 OPETATING ENVIORNMENT - ROOM TEMPERATURE IN ALL SEASONS	
		CD/DVD Player	5.1 Ch. Digital out DIVX, progressive scan, multi format playability, remote with battery 5.1 Surround speakers	
		Weighing machine for human dead bodies	Made up of premium quality materials - Provide accurate weight information. - Complete SS platform for easy cleaning and anti staining. - Platform size 2100 mm x 600 mm approx. - To weigh a maximum of 200 kg. accuracy 20 gms. - TARE function provided. - Imported load cells for enduring performance. - Digital display - Imported load cells for enduring performance. - Provide hygienic and efficient weighing. - Stainless steel 304 grade construction. - Available in varied specifications. - Rechargeable battery back up pack provided for usage in power failure.	

		Anthropological instrument seat	Anthrop meter type measurement of length. Range - 0.2.100 mm sliding caliper with 250/0-140 mm vernier (1/10 mm) aluminium Condyle caliper Co-ordinate calliper made of Spreading calliper with Spreading caliper with rounded ends Harpenden skin fold Caliper Orbitometer Goniometer Mandibulometer	Anthropometer made of aluminium, GPM for location of all height measure whole body. sliding caliper with vernier range 0- minimum calibration 1/10 mm made of Condyle caliper Range - 0-140 mm nickel plated. Co-ordinate calliper range 20-200 mm aluminium Sliding calliper with pointed ends Range 0-600 mm, made of brass Sliding caliper with rounded ends range 0-600 mm made of brass. Harpendens skin fold calliper. Range of upto 80 mm. Orbitometer Made - aluminium Goniometer (molisons type) Range 0 - 180 degree Mandibulometer made of metal	

			Range - 0 Baby weighing Baby weighing scale digital Range upto 150 kg Minimum calibration 100 grams Digital professional scale 150 kg Digital professional scale range upto Minimum calibration 100 gms. Stadio meter telescopic Stadiometeric telescope Range 10-70" Minimum 1/8" Infant head measuring Infant head measuring type Range 6-22" minimum 1mm. baby infantometer upto 3' Made upto P.V.C.	
		Interactive teaching board with LCD Projector	Interactive teaching board - 64 inches screen, Electromagnetic technology Wireless electromagnetic sensitive pen touch system Aspect ratio 4:3 Resolution - 13850*9760 pixels Cursor speed - 120 dots / sec Operation system - windows 2000/XP/Vista/7 Accessories - wireless pen, wall mounting parts, USB extended cables, stand eraser LCD Projector - LUN no SME1123366	

DEPARTMENT OF BIOCHEMISTRY

S.No.	Item Code No.	Name of Equipment	Specification	Comp./Divt.
1		Automated High Speed electrophoresis apparatus	With power pack	
2		Fully automated ELISA with	• Integrated Robotic sample processor built in incubator elisa reader and automatic washer with complete modular system. • Should have an open system for different make kits and manual over ride. • Predilution facility should be present. • Upto 256 samples can be assayed more than one type of ELISA at same time. • Parallel samples pipetting should be present. • Bar code reading facility for tubes should be preferable. • 6 litres with a range of 340-750 mm are required. • 12 measurement and 1 ref. channel. • 16 way manifold washing with 4 wash channels should be provided. • Volume of wash liquid dispensed variable and adjustable. • Residual volume / well should be <2ul. • User friendly software with option for manual intervention. • Tem. range room to 45 C+1 C. • 4 plate incubator. • Liquid detection should be present. • Clot dettection should be present. • Color monitoring check should be	

			provided. • There should be no carry over of sample. • Password protection to prevent unauthoried person access to software. • CVT 0.5 KVA • Printer to provide printed reports of testes. • Teflon coated stainless steel tip. • Inbuilt quality control. • Patient name, ID keyboard entry & individual report printouts in present format. • File search by name ID no date Reg. no etc. • Training of laboratory staff for the purchased equipment. • Three years warranty 5 year comprehensed AMC should be available with service centres in close proximity. • Availability of spares/ disposables for at least 10 years. • All consumables required for installation and standardization of system to be given free cost. • List of users and satisfactory report of quoted model from reputed institute Government institute / Hospital. • Should have all the accessories required for the functioning of the equipment. • ISI mark or other equivalent quality certification. • All electrical peripherals required for	

			smooth functioning e.g. voltage stabilizer and UPS should be provided with the equipment. • There should be provision for demonstration before final approval of equipment.	
3.		Poly Acrylamide Gel Electro phoresis Equipment	(Page electrophoresis system) Vertical and horizontal with universal power pack) **Horizontal unit :** Dimension - Gel plate size : 10.1x7.3 cm Gel size 8.3x7.3 cm Number of gels 1-4 Buffer tank Main unit with single molding casted with safety lid Tank volume Upper volume : 160 ml for 2 gels set Lower volume : 550 ml for 2 gels set Casting units Casting stand casting frames Combs Combs of variable size Spacers Spacer of varaible thickness Electrodes It must have fixed & adjustable platinum electrodes Power cables Should provide suitable power cables Typical run time 45-50 min (at 200 V constant) **Vertical unit** Dimension - Gel plate size : 20x22.3 cm Spacer plate : 10.1x8.2 cm	

				-18.3 x 20 cm	
			Gel size	18.3x20 cm	
			Get plate size-	Inner plate width : 20 cm Inner plate width : 20 cm Outer plate width : 20 cm Outer plate width : 23 cm	
			Number of gels	1-4	
			Buffer tank	Main unit with single molding casted with safety lid	
			Tank volume	Upper volume : 350 ml for 2 gels set Lower volume : 1200 ml for 2 gels set	
			Casting units	Leak proof casting stand casting frames.	
			Combs	Combs of variable size	
			Spacers	Spacer of varaible thickness	
			Electrodes	It must have fixed & adjustable platinum electrodes	
			Power cables	Should provide suitable power cables	
			Typical run time	5h	
			Cooling	Syst should include central cooling core that can reduce running time to 3.5 h	
			Accessories	Flexing hubble, clamps, alignment card system should be useful to run in	

				2D electrophoresis setup	
			Power	Should be compatible for both submarine agarose and vertical	
			Supply	acrylamide gel electrophoresis	
			Output range	10-500 V easily programmable and adjustable	
			Volts	with 1 V steps	
				There should be uninterrupted constant voltage or current output with automatic crossover	
			Output terminals	Atleast 4 pair recessed banana jacks floating in parallel	
			Input protection	Fuse on both hot and neutral	
			Volt hour control	99.000 V-h	
			Current	0.01-2.5 A adjustable with 1 A steps	
			Power	1.500 W	
			Timer	1.999 min fully adjustable	
				There must recovery after power failure	
			Programmable	It should be atleast 10 methods with real time	
			Methods	Clock upto 10 steps each	
			Safety feature	There should be no load detection system.	
				Sudden load change	

			detection Over load/short circuit detection Over voltage protection Ground lead dection Arc detection System should be provided long with a suitable (prefereably) APC make UPS with a minimum capacity of 1 hour back up with a 3 years onsite warranty. Warranty : Minimum five year free warranty (or two years warranty and three years comprehensive AMC) including free placement and free repairs, without any charges whatsoever within warranty period to be pledged by the dealers suppliers Agents etc.	
4.		High performance liquid chromatography (HPLC)	I. Quarternary pump for semiprep work • Operating pressure - upto 6000 psi • Flow accuracy - <2% • Flow precision - +0.1% RSD • Flow rate - 0.01-40.00 ml / min • No of eluents - 4 • Auto stat programming - Capability for auto stat & multi method programming storage of upto 1 complet method parameter tables with external events. • Composition range - 0-100% • Composition accuracy - +0.5% (independent of back pressure) • **Flow extendable to 45.00 ml/min** II Sample injection system with dual injector	

			option for analytica and semi prep analysis - For analytical injector III Degasser (optional) - In line Flow rate analytical - 0.2-5.0 ml / min Semi prep. analysis - 20-40 ml/min **IV. Detectors** **a) UV - VIS Detector** • Wavelength range: Complete UV-VIS range • Light source: Demerin and / or tungsten • Noise: +0.35x10^{-5} all dry cell 254 • Drifit: 2x10^{-4} AU hr. • Linearity: <5% at 2.5 AU • Band width: 5 nm • Flow cell: 10ul • Accuracy: +1nm • Reproducibility: -0.1 nm The detector should be have lamp optimization software b) Fluorescence detector. • Wavelength range: 200-900 nm • Light source: Xenon lamp • Cell volume: ul • Sean function • Band with: 20 mm • Sensitivity S/N Raman pack of water: 800 nm c) Refractive index detector	

			• Refractive index range 1-1.75 R/U • Flow rate 0.2-0-3 ml / min • Drift 1.5x10-9 RIU • Temperature control Internal oven 30^0C to 55^0C V. Column oven model - temperature range ambient +4C to 60^0C VI. Columns • C-18 250 x 4.6 mm • C-9 250 x 4.6 mm • C-18 250 x 20 mm • Pre column derivation 250 x 20 mm • Bio suit 4.6 x250 mm • Protein pak 7.8mm x 300 mm VII. Fraction collector • Flow rate upto 150 ml/min • And accessories VIII. Software computer system • Single point control of the entire HPLC • Customizable data reports online help wizards • Report publisher. IX. Coloured laser printer. X. Water purification system (from tap water to ultra water for HPLC) XI. Laboratory establishment.	
5.		Chromatography (exchange) instrument	**Technical specifications** Ion exchange type Capta Q Impes Quaterney a	

				minimum strong anion Sulfonate group, strong cation	
			Fluid	Approx 400 cm/h(<4 bar or 04 mpa) or approx 800 cm/l (<3 bar or .03 Mpa) in a packed bed in a 1 m diameter column with 20 cm bed height at 20C using process buffer with same viscosity as water.	
			Average particle size (d50)	36-44 um	
			Matrix	High flow agarose	
			Total ionic capacity		
			Capto Q hrpRes	.015-0.18mnol (Ci) ml medium	
			Cap Sp	0.13-0.16 mmol ml medium	
			Binding capacity Capto Q Impsres Capto Sp Res		
			pH Stability		
			Capto Q ImpRes	-2-14 (short term) 2-12 (long term)	
			Capto SP ImpRes	-3-14 (short term) 4-12 (long term)	
			Chemical stability	all commonly used aqueous buffers 1 M	

			sodium hydroxide 8M urea 6 M guanide hydrochloride. 30% insopropanol and 70% ethanol. Working temperature 4^0C to 30^0C **Storage** Capto Q ImpRes 20% ethanol Capto SP ImpRes 20% ethanol 0.2 M sodium acetate **HiTrap prepacked columns** Column volume ml and 5 ml Column 0.7x25 cm (1ml) 1.65x25 cm (5ml) Dimensions Column hardware 5 bar (0.5 Mpa, 73psi) Pressure limit Recommended fluid 1 ml/min (1ml) 5 ml/mi (5ml) 1. d50V is the average particle size of the cumulative volume distribution. 2. Dynamic binding capacity at 10% break through measured at a residence time of 4 minutes. (150 cm/h) in a Tricom 5/100 column with 10 cm bed height in 50 mM tris pH 80 (BSA on capta Q hmpres) 20 mM medium phosphate pH 7.2 (hysozyme) 50 mM pH (BSA on cap SP ImpRes) 3. Short term pH interval where the medium can be subjected to cleaning or place with significant change in function long pH interval where be	

			operated without significant change in function. 4. No significant change in capacity and carbon content after 1 week storage in 1 M naOh at 40^0C.	
6		Water Deionizer	Conductivity matter with linear scale and alarm system to indicate the regeneration cycle operate on AC/DC, mixed ion exchange resin column air mixing system FRP/PVC chemical proof regeneration tank PVC value arrangements all houses in trolley mounted and chemical proof metal stand rugged construction to with stand any external accident and chemical corrosion easily portable deionised water with have the conductivity of less than 1 ms/cm and pH of 6.8 to 7 output / hrs in liter - 100 liter.	
7		Refrigerated Centrifuge machine	Centrifuge machine with thermostat temperature control. 1) Speed 4200 RPM or more & temperature adjustable table with 1 degree centrifuge timer 1-99 min. 2) Digital display and adjustable parameters. 3) Minimum temperature 50^0C 4) Minimum warranty 3 years & 5) Availability of spare parts of 5 years.	
8		Electronic weighing machine	Weighing capacity from micro gm to 220 grams LED display Accuracy : 0.01/0.1 mg.	
9		pH meter	**pH meter** Model pH -103 pH Range 0-14 pH pH resolution 0.001 pH pH Accuracy +0.002 pH	

			Temperature Compensation 0-100 deg C mV +2000 mV mV resolution -0.1mV mV accuracy 0.2mV **Features** • Advanced microcontroller based design. • Display of pH mv temp on backlite LCD. • RS-232 interface • Inbuilt RTC • GLP complaint. • Entry of buffer value, machine ID through keyboard for the GLP printout. • 3 point automatic pH calibration with buffer standards 4.0, 7.0 & 9.2 pH. • 3 point manual pH calibration using with known buffer standards. • Automatic temperature compensation. • Entry of temperature through keyboard in the absence of temperature sensor. • Storage upto 50 test results. • Display of time based pH sampling data upto 200 samples supply voltage : 90-250V, 10% V AC, 50 Hz • Operating temperature - 10-45 deg C. • Humidity - 5-80% Rh • Automatic pH calibration : 3 points 4.0, 7.0 & 9.2 pH • Manual pH calibration 3 points using	

			known buffers • Display Backlite LCD	
10		Triple distillation water apparatus	Triple Distillation plant (glass) Pyrogen free distilled water. All glass water distillation apparatus. It should comprise of a flask having standard joint at the neck and the heaters should be very carefully embedded in a glass coil at the bottom of the flask. A cup should be provided on the side of the flask for the feeding water. A double walled condenser with standard joint fits at the top of the flask. All glass part must be made from high quality borosilented glass. The apparatus must be fitted on heavy cast iron stand having ring to hold the flask, clamp to hold the condenser. The distillation apparatus should have flask capacity of 5 liter and three different stages.	
11		Refrigerator	Double door (185 lit.)	
12		U.V. Spectrophotometer	Technical specification : 1. Wavelength Rang : 190-900 nm. 2. Spectral band width : 0.2 nm-4.0, 0.1 nm steps motor driven uv-vis. limiting resolution = 0.189 nm. 3. Wavelength accuracy : 0.02 nm at 656.1 nm & 0.04 at 485.0 nm 4. Wavelength reproducibility : 0.008 nm. 5. Data interval : 0.02-1.67 nm, 5.541-20.6 cm^{-1}, 0.2-16.7A 6. Photometric Range : 2.00 ABS or more. 7. Photometric accuracy : 0.00016 (at 0.3 at Abs double aperture methods)	

			8. Baseline flatness 0.00022 ABS (200-850 nm) 9. Photometric noise 0.000030 at ABS 0.00014 at 3 Abs 1.5 Abs RBA 10. Photometric stability 0.0003ABS/hr (2 hr. warm up) 11. Light source dead UV lamp & Tungsten halogen visible source. 12. Monochromation czemy turner 0.28 double beam 13. Deteftor photomultiplier tube. 14. Grating : High throughout optical system with all reflective optical design 30 x 35 mm, 1200 lines blaze angle 8.6 at 240 nm, 15. Power requirement 220/240 volts 50/60 Hz. 16. Curve 2 sets pairs for BV and visible range.	

DEPARTMENT SURGERY

S.No.	Item Code No.	Name of Equipment	Specification	Comp./Divt.
1		Upper and lower urinary tract endoscopy set with visual optical urotome with camera and endovision with flexible endoscope, lithoclast & laser.	**TECHNICAL SPECIFICATIONS OF CYSTO-URETHROSCOPE, OPTICAL URETHROTOME, RESECTOSCOPE, COLD LIGHT FOUNTAIN, CAMERA, LIGHT SOURCE, MONITOR ETC.** It should have a telescope , new generation 0 degree angle of view with 4mm diameter, autoclavable. - 1 No .It should have a Cysto-Urethroscope Sheath 19.5Fr. with obturator. -- 1 No. It should have a Cysto-Urethroscope Sheath 25Fr. with obturator. -- 1 No. It should have an adaptor with single/double instrument Port for Cystoscopy. -- 1 No. It should have Stone Crushing forceps for smaller stones and for removing Stone fragments -- 1 No. It should have a telescope new generation **30** degree angle of view with fixed eyepiece, 4mm diameter , autoclavable. -- 2 Nos. It should have a Continous Irrigation Resectoscope outer Sheath 26Fr. with automatic locking mechanism, oblique distal tip. --- 1 No. It should have a Continous Irrigation Resectoscope Inner Sheath 24Fr. with automatic locking mechanism,. Rotatable irrigation ring, oblique distal tip with ceramic	

			insulation -- 1 No It should have a Visual Obturator of 24Fr. --- 1 No. It should have a working element with passive Cutting Action. --- 2 Nos. It should have Cutting Loops to cut the adenomas -- 100 Nos. It should have Coagulating Electrodes -- 10 Nos. It should have Hook Electrode -- 10 Nos. It should have H.F.Connecting Cable 3m long -- 2 Nos. Toomey syringe 100 ml -- 2 Nos It should have Elik Evacuator with adaptor. --2 Nos. It should have an Optical Urethrotome Sheath of 20.5Fr. with instrument Port. ---1 No. It should have a Hollow Obturator. ---1 No. It should have working insert for stricture scalpel --2Nos. It should have a Guide tube with lateral opening.--1 No.	

			It should have Stricture Scalpel for Optical Urethrotome, Sache's blade.(standard) --- 20 Nos It should have Stricture Scalpel for Optical Urethrotome, lancet blade. -- 20 Nos. should have an OTIS Urethrotome with three interchangeable knives, straight, angled and Spherical. -- 1 No. It should have working element for Punch lithotripsy for sheaths 24 to 28 Fr. and continois irrigation double sheaths 27 and 28.9fr., as well as telescopes 0- 30 degree -- 1 No Should have of Flexible Button Electrode,unipolar 5mm diameter with working length 400mm. ---2 Nos. Should have a Rigid Optical Foreign Body Forceps to be used with 19.5Fr.Sheath onwards -- 1 No Should have a Rigid Optical Coagulating Biopsy Forceps to be used with 19.5Fr. Sheath onwards -- 1 No Should have a Rigid Optical Biopsy Forceps , retrograde to be used with 9.5Fr.Sheath onwards -- 1 No Should have a Rigid Optical Stone Forceps to be used with 23Fr. Sheath onwards -- 1 No **TECHNICAL SPECIFICATIONS OF UPPER TRACT**	

			UROLOGY INSTRUMENTS **NEPHROSCOPE 27 FR.** SHOULD HAVE PANOVIEW OPERATING TELESCOPE PARALLEL WITH BUILT IN OVAL PROBE CHANNEL FOR 4 MM ACCESSORY INSTRUMENTS WITH 25 DEGREE ANGLE OF VIEW. IT SHOULD ALSO BE CAPABLE OF USING FOR IRRIGATION OR ASPIRATION. SHOULD HAVE OPERATING SHEATH OF 27 FR. WITH IRRIGATION OUTLETS AT THE DISTAL END INCLUDING HOLLOW OBTURATOR FOR USE OVER J- GUIDE WIRE WITH ROTATABLE IRRIGATION TAP. SHOULD HAVE TELESCOPIC DILATOR 9-27 FR. THAT CAN BE USED OVER A J-GUIDE WIRE CONSISTING OF ONE HOLLOW GUIDE ROD. SHOULD HAVE A 30FR. AMPLATZ DIALTOR. SHOULD HAVE STONE GRASPING FORCEPS RIGID WITH ALLIGATOR JAWS 3 NOS. SHOULD HAVE STONE GRASPING FORCEPS RIGID FOR SOFT STONES 3 NOS. SHOULD HAVE THREE PRONGED STONE GRASPER RIGID SELF CLOSING 3NOS. **NEPHROSCOPE 20.8 FR.** SHOULD HAVE PANOVIEW PLUS OPERATING TELESCOPE WITH OFFSET EYEPIECE ,12 DEG.14FR. CHANNEL AUTOMATIC VALVE WITH SEALING MEMBRANE AND SEALING CAP, BLUE	

			SHOULD HAVE OPERATING SHEATH 20.8 FR., ROUND WITH SWIEVEL IRRIGATION CONNECTOR,DISTAL TIP STRAIGHT AUTOMATIC LOCKING MECHANISM SHOULD HAVE HOLLOW OBTURATOR FOR OPERATING SHEATH SHOULD HAVE STONE GRASPING FORCEPS DIA 3..5 MM WORKING LENGTH 350 MM SHOULD HAVE THREE PRONGED STONE GRASPER DIA 3.5 MM WORKING LENGTH 350 MM SHOULD HAVE RIGID GRASPING FORCEPS FINELY TOOTHED FOR SOFT STONES. **E-LINE COMPACT OPERATING URETERO-RENOSCOPE 6/7.5 FR.** THE URETERORENOSCOPE SHOULD BE COMPACT SLENDER DESIGN AND MADE OF HIGHEST QUALITY LIGHT MATERIAL THE SHEATH SHOULD HAVE A PROFILE DISTAL TIP ABSOLUTELY ATRAMATIC HEAD SHAPE. THE URETERONOSCOPE SHOULD BE MORE SLENDER, STEPLESS AND SHOULD HAVE TIP SIZE 6/7.5 FR. THE UETERORENOSCOPE SHOULD HAVE LATERALLY OFFSET EYEPIECE. THE URETERORENOSCOPE SHOULD HAVE A BUILT IN INSTRUMENT BRIDGE HAVING TWO INSTRUMENTS PORT	

			ONE FOR INTRODUCING RIGID LITHOTRIPSY PROBE AND SECOND FOR AUXILIARY INSTRUMENTS. THE CENTRAL CHANNEL SHOULD HAVE A SILICON SEALING VALVE TO AVOID BACK FIRING OF IRRIGATION FLUID. THE URETERORENOSCOPE SHOULD HAVE AN EXCELLENT OPTICAL SYSTEM WITH HIGH RESOLUTION IMAGE BUNDLES UP TO 50,000 PIXELS FOR LARGER AND BRIGHTER IMAGE WITH OPTIMUM DEPTH OF FOCUS. IT SHOULD HAVE A WORKING LENGTH OF 430 MM IT SHOULD HAVE 3 NOS GRASPING FORCEPS 4FR. WITH LARGE SERRATED JAWS WITH SPRING ACTION IT SHOULD HAVE PLASTIC HANDLE FOR EASILY HANDLING OF URETERORENOSCOPE DURING PROCEDURES. IT SHOULD HAVE GUIDE FOR LITHOCLAST HANDLE. **URETERO-RENOSCOPE SHORT 4.5FR.** IT SHOULD HAVE A LATERAL EYEPIECE IT SHOULD BE PARTICULARLY SUITABLE FOR PRIMARY URS WITHOUT PRIOR PLACEMENT OF A DOUBLE J CATHETER IT SHOULD HAVE A STRAIGHT INSTRUMENT CHANNEL IT SHOULD BE ABLE TO BE USED WITH LASER FIBER DIA 230 , LITHOCLAST PROBE 0.8 MM OR ELECTRO HYDRAULIC LITHOTRIPSY PROBE 2.4 FR. IT SHOULD HAVE EXCELLENT VIEW AND OPTIMUM IRRIGATION FLOW	

			IT SHOULD HAVE OVAL IRRIGATION AND INSTRUMENT CHANNEL INCLUDING AUTOMATIC VALVE FOR INSERTING INSTRUMENTS. IT SHOULD HAVE A WORKING LENGTH O0F 430 MM, 5 DEGREE OPTICS IT SHOULD HAVE A TIP DIAMETER OF 4.5 FR. IT SHOULD HAVE 1 X 3 FR. CHANNEL FOR AUXLILLARY INSTRUMENTS **TECHNICAL SPECIFICATIONS OF 3 CHIP CAMERA** 3 Chip High definition Camera Controller Unit with Digital Signal Processing, resolution 1920 x 1080 pixel, Digital Zoom on Screen display with BNC, S- Video , RBG cale with remote. Power supply 240 V , 50 Hz 3 Chip Autoclavable Camera Head integrated Lens focal length 18 mm, programmable Camera head with buttons for white balance and color contrast power cable 1 Set **LCD HIGH DEFINITION MONITOR** The Medical Grade Monitor should have : - High Class Full LCD panel 24" 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 **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 No Should have Spare Lamp for the above 300 Watts Light source -- -1 No Fibre light cable 2300 MM length with 4.5 mm fibre bundle diameter -- 1 No. Should have **original Mobile Unit Trolley** consisting of	

			Mobile Universal Video Trolley Including 4 Shelves, 3 of which are fully height adjustable ntegrated 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 125x5 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 Onto The Trolley Consisting Of: Lockable Tinted Safety Glass Doors and Lockable Rear Panel Side Panels from the original manufactur **SPECIFICATION OF LITHOCLAST (Imported)** **LITHOCLAST SET(pneumatic and ultrasonic energy source)** Should have Control Unit 100-240 VAC, 40 VA, 50/60 Hz Should have Foot Pedal Electric foot pedal with two pedals Should have compressed Air Tubing for Lithoclast hand piece	

			with device connector and one spare – Compressed Air tubing, for Lithoclast hand piece without connector Should have connectors for exhaust for Lithoclast Main cord should be with European Connector **ACCESSORIES** • Should be with Lithoclast probes of 0.8mm in diameter, 605mm in length • Should be with Lithoclast probes of 0.8mm in diameter, 445mm in length • Should be with Lithoclast probes of 1.0mm in diameter, 605mm in length • Should be with Lithoclast probes of 1.0mm in diameter, 445mm in length • Should be with Lithoclast probes of 1.6mm in diameter, 605mm in length • Should be with Lithoclast probes of 1.6mm in diameter, 445mm in length • Should be with Lithoclast probes of 2.0mm in diameter, 425mm in length • Should be with Lithoclast probe of 3.2mm in diameter (9.6 Fr.), 425mm in length for bladder and kidney stones. • Should be with probe cap for connection of 3.2mm probe on Lithoclast hand piece • Should have Lithovac-basic element for suction, stabilization, fragmentation and aspiration of stones • Should have Lithovac-basic element silicon tube for Lithovac tube valve with suction connection • Should be with Suction Tube of 1.6mm in diameter (4.8 Charr.), 595mm in length for Lithovac for use in Uretero Reno scopes with working channels 5 Fr • Should be with Lithoclast probe of 0.8mm in diameter for Lithovac probe 4.8 Fr. in length. • Should have suction tube for Lithovac 3.5mm in diameter (10.5 Fr.), 380mm in length for use in Cystoscope and Nephroscope with working channel 10.5Fr	

			• Should be with Lithoclast probe of 1.6mm in diameter for Lithovac probe 10.5 Fr., for bladder stone lithotripsy • Should have suction tube for Lithovac 4.0mm in diameter (12 Fr.), 353mm in length for use in Nephroscope with working channel 12Fr • Should have Lithoclast Hand piece consisting of: Lithoclast Hand piece pn3 • Should be with adjustment interface • Should have probe cap for connection of diameter 0.8-2.0mm probes on Lithoclast hand piece • Should have compressed Air Tubing for Lithoclast hand piece with device connector • Should be probe guides (12pieces) • Should be with silicone seals for single use (20 pieces) • Should be with transportation case for Lithoclast hand piece • Should be with Air Compressor to supply the LITHOCLAST, 230 V, 50/60 Hz, dimensions (W x H x D):380 x 305 x 315 mm • Air Compressor should be of 4 liter, 110V with 8 bar Medical Quality • Should be with compressed air tube for air compressor, 1.0m in length • Should be with compressed air tube for air compressor, 3.0m in length • Should be with compressed air tube for central compressed air supply for France • Should be with compressed air tube for central compressed air supply for Drager • Should have stone catcher set with 2 sterile suction tubes 3m in length, sterile individually packed set of 10. • Should have Stone catcher holder • Should have handle guide for Lithoclast handle for URS • Should have Fuses for Lithoclast **<u>TECHNICAL SPECIFICATION OF HOLMIUM LASERS 20 WATTS :</u>** • 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 -- 3	

			Other Pre-requisites for 20w laser a. There should be a number of installations in India being used for more than three years. b. The principals should be present directly in India. 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 and bladder calculi	

			➢ Ureteral and Urethral strictures ➢ Bladder and ureteral tumors *Orthopedics* ➢ Meniscectomy in the knee ➢ Osteoarthritis lesions ➢ Arthroscopy ➢ Spinal Dissectomy *Gastroenterology* ➢ Gall bladder and bile duct stones ➢ Polypectomy *E N T* ➢ Sinus Surgery ➢ Tonsillectomy ➢ Partial turbectomy ➢ Polypectomy ➢ *Gynecology* ➢ Benign endometrial polyps ➢ Endometriosis ➢ Peritoneal adhesions ➢ Submucous fibroids *Paediatric Surgery*	

			➢ Posterior Urethral valve flungsation ➢ Urinary stones & strictures ➢ Haemangiomas	
2		Portable ultrasound machine		
3		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 insufficiency. • 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.	

DEPARTMENT OF PEAD. MEDICINE

S.No.	Item Code No.	Name of Equipment	Specification	Comp./Divt.
1		Resuscitation Trolley	To hold all resuscitation equipment & medicine	
2		Portable ECG Machine	12 lead ECG machine with neonatal & pediatric probes Required for cardiac patients	
3		Flux meter	Flex meter with a well designed filter which should have a transmission area of 425-475 nm spectrum range To timely mentioned the irradiance output of phototherapy unit	
4		Double surface phototherapy unit & single surface phototherapy units	Combination of special blue & white fluorescent light delivering irradiance of 12-16 UW/cm^2/nm For neonates with hyperbilirubinemia to reduce serum conc. of bilirubin & the risk of bilirubin toxicity	
5		Resuscitation kit	Ambu bags (250 & 500 ml capacity) with mask of different sizes and laryngoscopes with blades 00, 0, 1	
6		Suction machine portable	For proper sanctioning i	
7		Nebulizers	Multiport For Nebulization	
8		Electronic weighing scale	For Anthropometric measurements	

NAME OF DEPARTMENT:- Radio diagnosis

S.No.	Item Code No.	Name of Equipment	Specification	Comp./Divt.
1		**Portable colour doppler**	**System Specification for Portable colour doppler** 1. The system should be a state of the art, high end digital system with whole body applications including obstetric, gynecology pediatric, urology, pediatric and small pan and vascular application. The system should have both adult and pediatric cardiac facilities with continuous wave doppler imaging. 2. State the total No. of installations in India 3. mention the no of model quoted installed globally 4. Pls mention the year of introduction 5. specify the no of probe connectors 6. The system should have a high resolution monitor 7. The system should have 8000 digital processing channels. Higher channels is desirable Pls mention the no of processing channels 8. The system should have windows operating system. Pls specify the operating system used in the machine 9. The system should have advanced calculation package for all mentioned application obs, gy tv, tr, small parts, doppler and cardiac (adult and pediatric) 10. The system should have the below mentioned modes- B mode, CF mode, PW mode, Power angio, M mode, 11. Transducers should have tissue harmonics imaging as standard. 12. The system should have Real time triplex imaging on all transducers. 13. The system should have trapezoidal imaging for all linear probes. 14. The system should have 3D imaging.	

			15. System should have real time compounding with all probes. It should have facility for Real time compounding with color doppler mode too. 16. The system should have one touch optimization function for adjusting doppler function while doing doppler scans. 17. System should have post processing facility on Frozon mode for pulse and continuous wave doppler imaging. 18. System should have post processing facility for multiple frequency selection for fat patients at one touch of a button 19. System should have a maximum depth of 30 cm. 20. Dynamic range of 120 Db or more 21. System should have real time zoom and zoom facility on frozen image too. 22. System should have a facility for real time calculation for spectral doppler. 23. The system should have extended loop capability of upto 3 minutes or 2000 frames at acquisition rates 24. The system should have minimum 20 GB harddisk facilty for image storage. 25. System should have an integrated image management system for printing and storing image for the offline analysis 26. System should have Dicom facility to connect it to the hospital server/ Printer system should be DICOM ready. 27.The system should store real time loops in B mode and color mode. 28.The system should have direct printing facility on both thermal and color inkjet printer 29.System should have broad band high frequency transducers with multiple frequency selection option. 30. Multifrequency convex transducer of approx 2-5 Mhz for abdomen obst and gyn application	

			31. Multifrequency linear transducer of approx 5-12 Mhz for small parts and vascular imaging 32. Multifrequency transducer from approx 5-9 Mhz for transvaginal and transrectal imaging 33. Convex multifrequency probe for general purpose cardiac scanning.	
		Digital mammography system	**General description:** Large field of view digital mammography system for general screening, diagnostics and interventional applications. The system should consist of: 1. large field digital flat panel detector 2. Ergonomic examination gantry designed for mammography applications with motorized movements 3. integrated digital acquisition system with user console and flat panel monitor 4. dual track mammography X-ray tube with additional beam filters and automatic collimator 5. High frequency generator 6. Exposure control system and selectable dose modes 7. Radiation shield and a mammography image receptor grid 8. motorized compression device and compression paddles 9. FFDM based stereotaxy availability 10. Upgradable to advanced applications 11. Magnification device **TECHNICAL SPECIFICATIONS** X-Ray Generator High frequency generator type 3.0 kw or more generator power	

			kV range: 20 to 35 or more in 1 kV steps mAs range: 0 to 500 mA range: up to 100 or more Exposure monitoring generator and tube load pre- exposure display of the exposure parameters Displayed parameters kV, mAs, target filter, density selection Auto record of the exposure parameters for each mammogram **2. X-Ray tube** Dual focus x-ray tube preferably Mo/Rh spot sice small focal spot: 0,1 mm Spot sice large focal spot: 0,3 mm Rotating Anode Anodo heat storange capacity >300 kHU Anode heat dissipation: 40 kHU/min Beam filters: Mo and Rh Target/ filter combinations Mo/Mo and Mo/Rh Target/filter combination Rh/Rh Tube heat monitoring system / device/ program Tube current large focal spot (25-30kV): -100 mA Tube current small focal spot (25-30 kV): 40mA **3. Gentry assembly** Isocentric system Motorized rotation and vertical movement Dual speed movements Rotation angle: -+180 to -165 degree Distance floor to image receptor:-65 to 150 cm Source to image receptor distance (SID) : 66 cm Wheelchaire access Face shield Compression force display	

			Pair of dual foot- pedals Automatic decompression after exposure magnification stand with dedicated paddles Magnification: 1,5 Magnification: 1,8 Motorized compression force: 0 to 200 newtons Manual compression force: up to 270 newtons Large paddle Regular 19 x23 sliding paddle Square spot sliding compression paddle Round spot sliding compression paddle **4 Exposure control** Both manual and Auto mode (Automatic Technique selection) Should be available Parameters controlled: kV mAs, filter **5. Automatic technique selection** Parameters: Anode track, filter, kV mAs, Virtual cell and dose should be chosen automatically Different modes should be available for selection **6. Collimator** Beam filter: Mo and Rh Light beam intensity (Lux)> 300 FOV can be modified manually and can also be selected automatically based on the paddle and magnification platform **7. Flat panel detector** Detector size:- 24 x30 cm Pixel size: 100 um DQE at OLP/mm: 60% DQE at 5LP/mm : 29%	

			Image depth>=14 bit Operating temperature: - 15 to 35 degrees Celsius **8. Digital acquisition system** Local storage capacity:8000 images & more Preview image: <16 seconds LCD image monitor High luminance LCD: up to 500 cd/m2 Image annotation Measurement functions Automatic dose (Skin dose and average Glandular Dose) annotation Automatic windowing Multi format display Zoom and roam Image invert Print layout for multi format printing Integrated CD R/W Thickness equalization (image harmonization) Fine view (improved conspicuity) Integrated quality Assurance program Repeat reject analysis **9. Connectivity** Autosend (Autopush) Autoprint Autodelete based on storage commitment DICOM SEND (storage provide) DICOM storage commitment (storage commitment user) DICOM Worklist (Modality worklist user) DICOM Query/ Retrieve user DICOM Print (basic grayscale print user) Verification service (verification provider)	

			DICOM CD **10. Printer interface** Basic Grayscale print user Validated printer list for hardcopy diagnostic **11.Grid/ Breast support assembly** Grid ratio:5:1 Removal and installation of the grid/ breast support motorize Low attenuation carbon fiber support **12.Accessories included** Pair of dual foot pedals Radiation shield with 0,3 mm Pb equivalent at 49 kV Face shield Large paddle- 24x31cm 19x23 cm sliding paddle Square spot sliding compression paddle Round spot sliding compression paddle Remote service modem Quality control toolkit User manual and technical documentation UPS for power supply **13.Display workstation** Mammography diagnostic workstation Two high contrast and resolution 5 MP LCD B & W monitors Multi-modality viewer to display U/S, DX,MR,MG,NM,PET & CT Customizable having protocols Dedicated mammography keypad Customizable functions buttons Patient list management tool User selectable auto contrast modes On line storage capacity for > 15000 images	

			Is the hard disk capacity expandable Image retrieval time to display (4 Views) : <4 seconds RAM: minimum 2 GB Quadrant glass Flip, Rotate, Invert Annotations and graphics Measurements Zoom and roam Brightness and contrast Print screen Contrast enhancement processing Internal DVD-ROM drive DICOM storage SCU/SCP DICOM Query/ Retrieve SCU/SCP DICOM Print Storage commitment SCU DICOM Print (Color and B&W) DICOM Media interchange TCP/IP network layer **14.FFD based stereotaxy Unit** Digital stereo tactic breast biopsy System should be patient comfort, efficient, accurate in upright/ Recumbent position with good image quality Stereotaxy angle should be-150 and +150 automatic stop at stereotaxy angles Tube parking position should be available up to-330 and + 330 for easy access to the breast biopsy procedure Biopsy window should be 50x40 mm or more Positioning at any angle +/-90 deg should be available Decubitus Biopsy table for patient positioning during srereotaxy procedure **15.CAD Solutions-**CAD solution should be FDA approved.	

			16.Optional System should be upgradable to tomosynthesis System should be available / upgradable to contrast enhanced mammography	
		4D colour doppler	**System Specification for 4D colour doppler** 1. The system should be a state of the art, high end digital system with whole body applications including obstetric, gynecology pediatric, urology, pediatric and small pan and vascular application. The system should have both adult and pediatric cardiac facilities with continuous wave doppler imaging. 2. State the total No. of installations in India 3. mention the no of model quoted installed globally 4. Pls mention the year of introduction 5. specify the no of probe connectors 6. The system should have a floating / adjustable key board with Backlit alphanumeric display 7. The system should have a non interlaced high resolution monitor with tilt and swivel facility. 8. The system should have integrated recording keys for remote control storage and printing options. 9. The system should have 8000 digital processing channels. Higher channels is desirable Pls mention the no of processing channels 10. The system should have windows operating system. Pls specify the operating system used in the machine. 11. The system should have minimum 80 user defined preset per transducer, More presets is desirable 12. The system should have advanced calculation package for all mentioned application obs, gy tv, tr, small parts, doppler and cardiac (adult and pediatric) 13. The system should have the below mentioned modes- B mode, CF	

			mode, PW mode, Power angio, M mode, 14. Transducers should have tissue harmonics imaging as standard. 15. The system should have Real time triplex imaging on all transducers. 16. The system should have panoramic View imaging. 17. The system should have trapezoidal imaging for all linear probes. 18. The system should have volume 3D and 4D imaging. 19. System should have real time compounding with all probes. It should have facility for Real time compounding with color doppler mode too. 20. The system should have one touch optimization function for adjusting doppler function while doing doppler scans. 21. System should have post processing facility on Frozon mode for pulse and continuous wave doppler imaging. 22. System should have post processing facility for multiple frequency selection for fat patients at one touch of a button 23. System should have a maximum depth of 30 cm. 24. Dynamic range of 120 Db or more 25. 4D Frame rates should be more than 20 frames/ sec 26. System should have real time zoom and zoom facility on frozen image too. 27. System should have a facility for real time calculation for spectral doppler. 28. The system should have extended loop capability of upto 3 minutes or 2000 frames at acquisition rates 29. The system should have minimum 40 GB harddisk facility for image storage. 30. System should have an integrated image management system for printing and storing image for the offline analysis 31. System should have Dicom facility to connect it to the hospital	

			server/ Printer system should be DICOM ready. 32. System should have inbuilt CD/DVD drive for copying images directly on CD 33.The system should store real time loops in B mode and color mode. 34.The system should have direct printing facility on both thermal and color inkjet printer 35.System should have broad band high frequency transducers with multiple frequency selection option. 36. Multifrequency convex transducer of approx 2-5 Mhz for abdomen obst and gyn application 37. Multifrequency linear transducer of approx 5-12 Mhz for small parts and vascular imaging 38. Biopsy Needle guides with kit 39.Multifrequency volume transducer from approx 2- Mhz for obstretic and abdominal 4D imaging 40. Multifrequency volume transducer from approx 5-9 Mhz for transvaginal and transrectal 4D imaging 41. Convex multifrequency probe for general purpose cardiac scanning 42. System should have real time coronal imaging facility possible 43. system should have advanced 4d fetal echo facility both with color and power doppler imaging 44. system should have the facility for the parallel slicing of the volume in real time mode.	

NAME OF DEPARTMENT:- MEDICINE

S.No.	Item Code No.	Name of Equipment	Specification	Comp./Divt.
		BODY PLETHYSMOGRAPH SYSTEM WITH DIFFUSION STUDY	1. Fully automatic computerized unit for the measurement of following parameters: o Spirometry & Flow Volume Parameters. o Maximum Voluntary Ventilation (MVV), o Lung Volumes & capacities including RV & TLC. o Airway Resistance & conductance - Raw (Insp. Exp. tot), SRaw, Gaw, SGaw, o Single Breath Diffusion Capacity of Lungs (DLCO-He) & Intra Breath. o Lung compliance (Static & Dynamic), o MIP/MEP for Reapiratory Muscle Strength, o 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)	
		Fiber optic Bronchoscope and light source	1. field of View should be 120 degree or more 2. Depth of field should be 3-50 mm or better 3. Distal end diameter should be 5.8 mm or less 4. Insertion tube diameter should be 5.8 mm or less 5. Channel diameter should be 2.2 mm or more 6. should be light weight and easy to use 7. Working length should be 550 mm or more 8. Total length should be 800mm or better 9. UP and DOWN angulations should be 180 degree and 120 degree or better 10. Can be fully immersed in disinfectant solution and water 11. Should have autoclavable suction valve 12. Should be compatible with laser and electro-cautry. Light Source should be compatible with 150	

			watt halogen bulb with sharp output. 13. Manufacturer should have a local office with complete technical backup capability (preferably)	
		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)	
		Vido Bronchoscope	1. It should have good crisp, clear image quality. 2. Outer diameter should be 6.0mm or less. 3. Channel diameter should be 2.8mm. 4. Insertion tube length should be approx. 600mm. 5. field of view should be 120 degree or more. 6. Angulation - UP- 180 degree, down - 130 degree. 7. Minimum visible distance should be 3mm or less. 8. Should be compatible with laser and electricity 9. Manufacturer should have a local office with complete technical backup capability (preferably)	
		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	
		Steel Cot	Steel cot drawing code NO. 2K9-E-30 Size : 1910 x 1880 x 950 x 450	

NAME OF DEPARTMENT : RADIOTHERAPY

S.No.	Item Code No.	Name of Equipment	Specification	Comp./Divt.
		Linear accelerator high energy	**1. Description of function** 1.1 Dual energy medical linacs utilize photons of 6 MV and less than 15 MV and electron beams up to 20 MeV to treat both benign and malignant disease. 2. **Operational requirements** 2.1 High energy linear accelerator complete with treatment planning system and working console is required. 3. **Technical specifications** 3.1 **A. STANDARD EQUIPMENT** 1. Photon energy : 6 MV for low energy and less then 15 MV for high energy 2. Electron energy : 6 Beam energies between 4-20 MeV. 3. RF source :Magnetron / Klystron 4. Waveguide type : Standing / Traveling wave 5. Electron gun : Sealed /unsealed 6. Treatment modes Normal - TSD/TAD Rotation - CW/CCW ARC-CW/CCW Dose rate - MU/degree 7. Dose rate for photon energy : 200 MU/min and above in steps or higher dose rates for both photon beams. 8. Dose Rate for electron energy : 100-1000 MU/min in steps or higher	

			dose rates. 9. Field size (Unclipped) 10. Field size (Unclipped) For electrons : Max - 25 x 25 cm2 or more , Min - 4x 4 cm2 **A method to obtain irregular field shapes shall be provided.** 11. Beam Flatness (PHOTON) : Variation of x-ray intensity relative to the central axis sizes 10x10 cm2 to 40x40 cm2 at 10 cm depth. 12. Beam flatness (electrons): Variation of electron intensity relative to the central axis sizes 10x10 cm2 to 10x10 cm2 at 10 cm depth. 13. Focal spot size : 14. Photon Arc Therapy : Bi-directional arc therapy should be included with automatic calculation of dose per degree based on the dose rate selected and the arc angle set. 15. Beam symmetry : The maximum percent difference of average doses shall not exceed 2% for electrons and 3% for photons. 16. Gantry rotation : a) Read out - Digital and Mechanical b) Accuracy dig readout 0.5. c) Control - Hand pendent and control console. d) Target - Axis distance - 100 + 0.2 cm e) ODI Range - 75 cm to 150 cm f) ODI Accuracy + 0.1 cm	

			g) Gantry rotation iso centre 2 min diameter. sphere h) No beam stopper. 17. Collimator : Rotation +95 about mid position Control hand pendent and control console Readout accuracy + 0.5 Collimator rotation iso centre 2 mm diameter sphere Dynamic wedge / motorize wedge. **18. Asymmetric collimators x Y both asymmetrical** specify travel ranges and over travel range. 19. Multi leaf collimator (MLC)No. of physical leaves 80 and above. a) Independent drives b) Leaf width as iso centre = 10 mm c) Capable of performing dynamic conformal therapy procedure interface between MLC & existing network system should be provided. d) Facility to treat patients conventionally using blocks without MLC e) Work station HW/SW- specify details f) Integration (full networking) with planning system, simulator, CT, CT simulator, MRI & RFA should be done g) IMRT delivery should be possible h) Max. leaf retracting position i) High over center travel of MLC leaves for IM"RT treatments	

			j) Max field length k) Leaf height and material l) Coincidence of light and x-ray field m) Penumbra n) Transmission o) Interleaf leakage p) Leaf position accuracy q) Max. carriage speed r) Max. leaf speed s) Positional accuracy of the leaves during treatment t) Inter digitations of leaves if available u) Two Numbers of treatment parameter monitor 21" TFT to be provided 20. Treatment couch : 1. Versatile extended range couch with indexed immobilization movements. 2. Longitudinal lateral vertical and rotation 3. Electrical / mechanical control 4. Control local and /or remote 5. Opening window - Tennis racket / mylar 6. Fully carbon fiber table top for better quality portal images. 7. Minimum height from floor - app 60-65. 2.1 **Treatment planning system**	

			1. The TPS software shall run on a very powerful graphics intensive computer system with adequate latest backup technology. The system shall have high capacity hard disk and a DVD writer. 2. Capable of performing conventional 3D-CRT, SRT,.intensity modulated radiotherapy treatment planning for coplanar and non coplanar beams and IGRT Planning in the same system. 3. Supports, multiple dose calculation algorithms such as anisotropic analytical algorithm convolutioal and pencil beam algorithm monte carlo etc. 4. At least two calculation algorithm for photons and two for electron beam shall be quoted. 5. Virtual simulation using the software and licenses for virtual simulation feature and for controlling moving laser shall be provided. 6. DICOM ready image networking. 7. Two workstations enabling simultaneous contouring with license and additional two treatment planning work station with calculation license should be provider. A. **Beam data** 1. Dosimetric data for IMRT fields must be transferred from RFA. 2. Conventional standard beam data for electrons and photons must be stored and modification of it for IMRT and conformal treatment must be done. B. **Patient anatomical data transfer :**	

			1. The patient data must be transferred from CT/MRI, simulator in the form of fluoroscopic image and CT/MRI via Dicom, CD and DVD's. . Data from CT/MRI slices must be transferred via film scanner, digitizer and direct from CT/MRI scanners, simulator and RFA. 3. The system must select more than or equal to 100 images per patient and to do real time multi planer reconstructions from original CT/MRI image data sets. 4. The system must have auto contouring of external and internal organs from CT/MRI images either taken form CT/MRI film or via other mode of data transfer as mentioned above. C. **Planning :** 1. Geometric planning : System must have auto contouring of organs. After dose prescription and fractional scheme system must create geometric treatment plan with 3-D visualization and virtual simulation. 2. Dose optimization : System should have provision to generate the treatment plans from templates that satisfy the organ dose constraints. Following steps should be taken : 1) Define dose volume constraints 2) Set optimization parameters. 3) Evaluate optimization **3. Dose calculation :** System should be able to provide dynamic / step and shoot IMRT treatment	

			planning and license for Florence map to be exported on DICOMRT format. The necessary interface for transfer of treatment plans to any linear accelerator should be provided. The final dose distribution is calculated as per selected dose delivery technique. 4. Plan, Review and evaluation : It must provide 3-D dose visualization and differential and cumulative DVH analysis tools to review the plan. 5. Plan export : The IMRT plans can be exported directly after approval to linear accelerated for dose delivery. D. **The inverse planning system :** Should be complete in all respects and be able to perform static / dynamic MLC plans. The system should be able to generate multiple plans for selection. The accuracy of forward dose calculation using intensity modulated beams should be less than 2%. The IMRT planning and treatment should be based on step and shoot and or sliding window MLC technique as per the user choice. The total time for inverse planning should be less than 20 minutes. A complete QA kit for the system must be supplied. Necessary software for linking RFA to the planning system must be supplied. 22. **Oncology information system complete with networking** Record and verify system Transfer of all parameters from simulator and treatment planning system, Cad plan to the accelerator for automatic treatment set up and delivery should be provided.	

			Transfer fluoroscopy images from simulator to portal imaging system for comparison should be provided. 23. **Accessories :** 1. Wedges - Stationery 150,30,450 and 60 wedge angle. 2. Front pointer - Mechanical 3.Accessory mount - shadow block tray 4. Blocks - divergent / non divergent 5. universal clamps 6. Side rails on both sides of couch for mounting accessories 7. CCTV/Camera two Nos. one wide angle and one remote control with remote zoom and focus facility. 8. In room color monitor 20" or higher. 9. Laser alignment system 4 cross laser system 10. Interface mount to be provided for the simulator to stimulate accessories like shadow block tray etc of the quoted accelerator model. 24. **Dosimetry system (Photons)** Built in chambers. Two separate sealed chambers Precision + 1% or 1 MU Linearity+ 1% or 1 MU Reproductively + 2% or 1 MU Dose Rate Dependence B. **Portal imaging and dosimeters accessories** 1. Portal imaging : Should fully integrate with accelerator	

			Should be able to images at any gantry angles with variable X-Y-Z movements, Robotics arm with remote control. Should have digital technology with high resolution 1024 x 1024 pixels or more imaging (Amorphous silicon flat panel based technology). 2. Auto field sequencing **3. Dosimetry accessories :** 1. 3D Servo controlled radiation field analyzer having compact water phantom of minimum dimension 60x60x60 cms or more with reservoir build up caps. TNC connector and latest PC control system with IPS interface program. 2. Dual channel electrometer 3. Ionization chambers (Signal, Reference and Pinpoint) 4. Diode detectors (Photons, electrons and sterotactic) 5. Parallel plate chambers 6. 2D arrays of either semi conductor / ionization based dosimetry system for measurement of fluence along with computer hardware and software. 7. Solid water phantom universal tissue equivalent along with necessary and for the chamber of size 30 x 30 30 cm should be provided. 4. System configuration accessories, spares and consumables. 4.1 System as specified 4.2 All consumables required for installation and standardization of system to be given free of cost. 4.3 The chiller system shall be provided along with the	

				machine by the principals.	
				4.4 A closed circuit color TV system with TV monitors and two cameras in the linac treatment room shall be supplied. A patient calling system with 6 channels shall be supplied. Internet broad band connectivity for remote control shall be provided. A LCD projector should be supplied.	
				4.5 Patient immobilization accessories	
				4.5.1 Standard supine base plate	
				4.5.2 Lateral base plate	
				4.5.3 Head and neck prone baste plate	
				4.5.4 Head and neck supports A, B, C, D, E	
				4.5.5 Knee crutch and arm position with hand grip	
				4.5.6 Overhead arm postioner	
				4.5.7 Shoulder retractor	
				4.5.8 Universal tissue equivalent bolus 30x30x0.5 cms	
				8. **Documentation**	
				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 supports as per manufacturer documentation in service / technical manual.	

			8.4 List of important spare parts and accessories with their part number and costing. 8.5 Log book with instruction for daily, weekly, monthly quarterly maintenance checklist the job description of the hospital technician and company service engineer should be clearly spelt out. 8.6 Additional documents to be enclosed with quotation : a. No of similar models : India / World (enclose list of institutions) b. No. of certified engineers in India (enclose list of names) c. Remote diagnosis facility (India / Abroad) availability details	
		CT Simulator	**A-1** Dedicated CT Simulator is required for Radiotherapy Department for conventional 3D CRT and IMRT planning. The CT simulator is required for most accurate simulation placement of treatment fields and marking of radiation field portals on patient skin for radiation therapy of cancer patients. It should be latest, state of the art model. The CT scanner should be a spiral, multi slice incorporating, latest technology available in the market. The simulation software should be user friendly and should ensure easy, error free and total compatibility between scanner and simulation workstation. If third party software is supplied, it will be sole responsibility of the vendor supplying the CT simulator to run the software. The system should be able to integrate the virtual simulation software, workstation to 3-D TPS and linear accelerator of the department and this will be entirely and direct responsibility of the vendor. The equipment supplied should be typed approved by AERB Mumbai.	

			A-2 CT-Scanner Specification	
			A-3 Whole body spiral, multi slice (minimum 16 slices per rotation) CT with flat table and other accessories for radiotherapy treatment planning and simulation. The system should have following essential features :	
			A-4 Gantry : 1. Gantry aperture should be minimum 80 cm or more. 2. Gantry tilt should be at least 30 degree. 3. Scan field of view should be 50 cm or more. 4. Metal free scan able range should be at least 150 cm.	
			A-5 X-Ray Generator High frequency x-ray generator with an output of at least 50 KW or more. Please give details.	
			A-6 **X-Ray tube** i) The x-ray tube should have anode heat storage capacity of 5 MHU or more. ii) The anode peak heat dissipation rate should be 700 KHU / min or more. iii) The x-ray tube should have dual focal spot (please specify the size of each focal spot).	

			A-7 **Detector system** 1. The detectors should be solid state, preferably rare earth material. 2. It should be free from repeated calibrations. 3. The detector system should be able to acquire at least 16 slices per rotation.	
			A-8 **Patient Couch :** a) The scanning table should be universally flat with flat table top and should be compatible with the tables of linear accelerator installed. The table should have patient positioning index system on carbon fibre table top. It should have following features : i) The table should be able to bear weight up to 180 kg or more. ii) Horizontal accuracy should be 0.50 mm or less. iii) It should be possible to move the table top from the table side and control console and hand pendent. iv) The table should have auto home facility. v) All patients positioning accessories including tilt should have control both from gantry and control console.	
			A-9 **Control Console** i) It should have 18 or more color monitor for display of 1024x1024 matrix or more. ii) All the function viz scanning, image, reconstruction, film documentation, MPR, CT, maximum intensity projection, 3D with SSD etc should be possible from main console and workstation. iii)Image storage of 120 GB or more for at least 100000 images in 512x512 matrix	

			uncompressed or better. iv) DVD facility for archiving must be available.	
			A-10 **CT Scanning Parameters** i) The slice thickness should be users selectable from 1.0 mm to 10 mm. ii) KV range 90 to 140 KV iii) mA : 400 mA or more in increment of 10 mA. iv) Scan time for full 360 degree rotation should be 0.5 sec. or less. v) Display field of view should be 50 cm or more. vi) Intra-plan delay of 5 sec or less should be possible. vii) Retrospective reconstruction should be possible raw data files change in parameter such as FOV. viii) The following scanning mode should be possible scan gram : Axial and spiral. It should be possible to mix spiral and axial mode. Specify how may modes can be mixed. ix) Pilot scan : The pilot scan field size should be more than 1000 mm long. The reconstruction time for pilot scan should be 3 seconds for a 512 matrix and 5 second for a matrix of large size. x) Reference scan should be possible on an arbitrary slice within the proposed treatment volume.	
			A-11 **Image Quality :** i) Highest contrast spatial resolution : It should be 15 lines pair per cm or better (for 50 cm FOV) maximum at 0% MTF for a slice of 1 cm thickness. Clearly specify the photon used, scan time, mA filter for image construction, scan field, dose and MTF. Phantom should be supplied.	

			ii) Low contrast detectably : The low contrast resolution for CATHPHAN should be at least 5 mm or less at 0.35% with 10 mm slice on 20 cathphan phantom. iii) Spiral parameters : Different selection of pitch should be possible from 0.5 to 3 in 0.1 increment inter scan delay in different group of spiral should not be more than 5 seconds.	
			A-13 **Standard Software's :** Should provide standard software including following features : i) Complete scanning and evaluation software. ii) 3-D surface shaded and 3D volume rendering. iii) Quantitative CT measurement tools should be provided. iv) 3D small volume analysis software for solitary nodules is desirable.	
			A-14 **Hard copy system** A dry chemistry laser camera 500 dpi or more with digital interface and control integrated with main console. the camera should print a 14"x17" film size and it should be DICOM compatible. the price should be quoted separately.	
			A-15 **Essential Accessories :** 1. Head holding position kit 2. Standard supine base plate (head and neck) 3. Lateral base plate. 4. Carbon fiber titling base plate (head and neck)	

			5. Head and neck prone base plate 6. Belly board for hip and pelvis positioning and fixation 7. Hip fix 8. Breast and thorax positioning system CT compatible. 9. Overhead arm positioned 10. Breast board (carbon fiber) CT compatible.	
			ii) Lead Glass : 200 cm x 150 cm or more with lead equivalent to meet the radiation.	
			MOVING LASER SYSTEM The CT simulator should have at least three lasers. Out of which one should be mounted on the ceiling and two lasers should be mounted on side walls. The lasers should be computer control moving lasers. The simulation work station should control the moving lasers for marking the field reference points other than couch movement. Since the computerized moving laser for making the field reference point other than couch movement. Since the computerized moving laser marking system is of paramount importance the vendor has to support the claim in this regard by authenticated broachers and documents. In addition to the moving laser the CT-scanner should have conventional in built lasers for positioning the patient.	
			A-17 **CT SIMLUATION WORK STATION**	
			A-18 **GENERAL** The work station should have advanced CT simulation tools for radiation therapy treatment planning include work station that can control the laser marking system. Any CT simulation work station that can not control the laser marking system is not acceptable and liable to be rejected. The vendor should give a completed	

			description about the laser marking system offered and how the CT simulation software integrates with it and TPS. All necessary calibration / quality assurance phantom / check device should also be provided, please specify. The work station should be able to provide complete volume definition and geometric beam placement for radiotherapy. It should have complete compatibility and error free networking with the CT scanner computer and TPS. The CT simulation should generate digitally reconstructed radiographs a true volumetric environment. It should be possible to overlay the beams on any DRRs or on any slice (obtained and reconstructed). It should be possible to load over 250 CT images per patient for reconstruction and simulation.	
			a) Hardware i) Hardware specification should be mentioned clearly the system should be running on a high end work station platform of reputed bran dlsike sun micro system / H.P. workstation / Del / Silicon Graphics with at least 2 GB RAM or more. Minimum 128 bits processor with minimum of 120 GB hard disk or more. ii) The user interface should be windows based and menu driven. Display should be on a 18" or more LCD flat panel display monitor of high resolution of 1024x1024 pixel or more should be provided. iii) Mention the number of full512x512 slices real time processor can hold online. iv) A compatible 56 kb internal / external modem should be provided for remote diagnostic upgrades. v) The archiving media should be a DVD. vi) Networking with TPS-all the software with license required should be included. vii) Laser printer should be provided. viii) It should be possible to take print out on this printer from any of the TCT simulation workstation.	

			b) Software	
			i) Software should be unix /window / silicon graphics based system. ii) The software should have a volume accelerator for high speed 3D rendering at full spatial resolution. iii) On the monitor screen it should be possible to view at least 36 images or more. iv) The standard screen layout should consist of one main view port and three sub view ports for frequent usage of other images, quick manipulation of images, or for displaying reference views, while the main view port is used for high resolution display. v) Image manipulation such as changing window width and window level, hot keys activated automated study archive, deletion, screen layout changes, disk space display archiving and graphic overlays such as annotation. vii) It should possible to visualize interactive reference views in axial, coronal, sagitals, iso center image planes and in any oblique directions with overlay of beams in DRRs. viii) DRR must provide fully divergent beam's eye view of 512x512 matrix. ix) The DRR/BEV and Room eye view image should display the machine diagram to allow real time checking of machine and patient geometry. x) Facility for multi modality fusion to accept the data from other DICOM compatible and DICOM supporting modalities such as MRI / CT / SPECT / PET should be able to fuse them.	
			A-19 **CONTOURING** i) Volume definition should be possible using volume segmentation using threshold free hand contour tracing, contour editing 3D an isotropic margin etc and any other advanced tools.	

			ii) System must be able to contour in axial sagital, coronal and oblique projections. iii) It should be possible to do manual semi automated, fully automated contouring / segmentation in the images by defining volume of interest. iv) Mention the time taken for automated contour with a single mouse operation for 250 slices. v) The software should have facility for automated uniform or non-uniform margins. For example it should be possible to expand the clinical target volume CTV on all three dimensions by same magnitude or by different magnitude to define the planning target volume. Any software without this automated uniform / non uniform feature will be considered as inadequate. vi) It should be possible to copy one organ to another with margin and margins on a single slice a range of slices or all slices. viii) Interpolate algorithm should be available to provide shape based interpolation i.e. after contouring only in selected slices. The algorithm should automatically interpolate the closely fitting contour in other slices. ix) Interpolated contour may be edited accepted or rejected. x) Tracking of source to skin distance should be possible. xi) Contouring and editing and extraction of wall should be possible.	
			A-20 **ISOCENTER MANAGEMENT** i) The advance should support separate iso center for multiple target volume or general regions. ii) Marked and final iso centers should be reported and displayed in the localization package for easy confirmation of a physical simulation session. iii) Hardcopy of the isocenter coordinates should be possible for record of the	

			simulation session. iv) Isocenter positioning should be automate. v) No limit on number of isocenter per target.	
			A-21 **VIEW AND VOLUME RENDERING CAPABILITES** 1) Post processing features like volume rendering real time multi axial volume reconstruction, 3-D surface rendinger color 3D should be available. ii) It should allow completed 3D volume to be defined including complex 2D volume user selectable multi image views, became eye view room eye and DRR. iii) DICOM radiotherapy plans and data structure with import / export of data should be possible. The DICOM compliance statement should be provided. iv) Accuracy of locating any point in 3-D should be 0.1 mm or less.	
			A-22 **BEAM PLACEMENT & DEFINITION** i) If should support extensive beam shapers (shielding blocks etc) and beam definition methods. ii) Manual or automatic beam placement tool. iii) Tools for real time checking of machine geometry. iv) Beam shaping should be possible in multiple ways like automatic shielding block definition confirmation to selected volume definitions aperture or shielding manual free hand definitions automatic collimator jaw or multiyear position definition. v) It should be possible to define this asymmetric collimator feature where both the X and y axis of jaws are asymmetric in the CT simulation software, similarly the software should allow multi leaf collimator placement up to 40 pairs or more. Any software that can not handle 40 pairs of MLC leaves is not acceptable.	

			A-23 **DRR FEATURES** 1) Interactive DRR calculation mode must be available ii) Automatic window width /. level selection for DRR. iii) DRR should be interactively updated when the isocenter position is modified. iv) Should be possible to highlight or suppress different density region in the DRR. vi) Macro function to save a used steps vii) Specify DRR image enhancement tools to improve DRR quality. viii) Reconstruction of DRR should be real time or in sub seconds. ix) Direct printing of DRR on laser film should be possible. x) Real time display of DRR as beam parameter changes.	
			A-24 **DEPTH CONTROL :** i. System should support depth control mode creating a DRR from slab of 3-D mode, perpendicular to beam axis. ii) DRR must be calculated over a user defined thickness. iii) Depth control in oblique projection must be possible. iv) Should be possible to merge two DRR image on the same beam. v) Cross hair display on DRR to provide scale information.	
			A-25 **DATA IMPORT / EXPORT** i) System should be able to export image, volume and plan data in DICOM 3.0 standard long with all Radiotherapy specific data and private objects, DICOM RT plans and data sets.	

			ii) System should be able to import DICOM RT data to the linear accelerator of any vendor. iii) CT simulation system should be fully integrated with the existing TPS. The vendor should inspect and will be responsible for complete integration. iv) All import and export license should be provided.	
			A-26 **DOCUMENTATION AND ARCHIVING** i) Should be on a color dye sublimation or alternative suitable and economic printer to be supplied along with the system and DICOM print should be possible. Abode post script print should be available. ii) Archiving should be on DVD in DICOM format.	
			A-27 **MEASUREMENT PACKAGE :** i) The software should provide the density value (in House field unit) of a particular point on image. It should compute distance along straight lines and curved lines angle between the lines and radius of curvature for curves. ii) For a specified region of interest, ROI, the area, minimum and maximum voxel values mean and standard distribution and a density histogram should be available. iii) The software should be able to calculate the volume of a displayed 3-D object.	
			A-28 **IMAGE MANIPULATION** i) Different kinds of image manipulation features should be available like multi planer reconstruction curved formatting. ii) 3D reconstruction with no waiting for reprocessing. iii) The vendor should provide comprehensive training by application specialist for the CT simulator at the site on installation and to the full satisfaction of the head	

			department of radiotherapy. The training period should be at least for four weeks or more. 2.1 Complete installation should include : 1. Room Planning and designing and construction. Space requirements to be spelt out in advance. 5. Air conditioning and monitoring of temperature and relative humidity and air changes (To specify no. per hour) to be installed. 2.2 The unit shall be capable of being stored continuously in ambient temperature of 0-50 deg C and relative humidity of 15-90%. 2.3 The unit shall be capable of operating in ambient temperature of 20-30 deg. C and relative humidity of less than 70%. 2.4 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. **3. Power supply** 3.1 Should work on three phase 400-440 V/50 Hz power 3.2 Online UPS of suitable rating should be supplied for the complete system including Gantry, computer system, anesthesia delivery system, monitor and defibrillators with at least 30 minutes back up. 3.3 Reset-table over current breaker shall be fitted for protection. **4. Standards, Safety and Training** 4.1 Warranty : 60 months from the date of satisfactory installation & handing over to the department. The warranty shall cover all the accessories including CT tube. Comprehensive maintenance contract for five years shall cover all the accessories including CT tube.	

			4.2 Shall comply with AERB guidelines and type approved. 4.3 Should be FDA, CE, UL or BIS approved product. 5. **Documentation** 5.1 User / Technical / Maintenance manuals to be supplied in English. 5.2 Certificate of calibration and inspection. 5.3 List of equipments available for providing calibration and routine. Preventive maintenance support as per manufacture documentation in service / technical manual. 5.4 List of important spare parts and accessories with their part number and costing. 5.5 Log book with instruction for daily, weekly, monthly and quarterly maintenance.	

DEPARTMENT OF ANAESTHESIOLOGY

S.No.	Item Code No.	Name of Equipment	Specification	Comp./Divt.
		Anaesthesia workstation	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.	
		defibrillator	**GENERAL:** AC input 100 to 230 V AC; +/- 15 %; 50/60 Hz. Power consumption 100VA Battery type Rechargeable SMF Lead Acid Battery Capacity 12 V, 4.5 AH 7 hrs only monitoring; 100 discharges of 360 joules. Environment Operating temperature:0 degree Celsius to 40 degree Celsius. **DEFIBRILLATOR:** Waveform 5 msec Monophasic pulse Energy select - External 0 to 360 joules in steps 2,3,5,7,10,20,30,50,70,100,150,200,300,360. - Internal 0 to 50 joules in steps 2,3,5,7,10,20,30,50 Charge Time < 5 secs to 360 joules with battery < 15 secs to 360 joules without battery (AC mains only). Charge indicator Charge ready lamp and audible tone Charge ready lamp on apex paddle. Available and delivered energy to be displayed on screen. Synchronization Defibrillation synchronized to the R wave with marker indication on the ECG waveform. Sync message display message to be displayed on the monitor screen and lamp on front panel. Energy/ Heart Rate display on the screen. Paddles Standard adult anterior electrodes Slide off to expose paediatric electrodes. Retractable Cable with stretched length of atleast 3mts	

			<u>Monitor section of defibrillator</u>: Display backlight. — Monochrome LCD 5” diagonal with CCFL Display resolution — 320x240 pixels. ECG modes standard leads) — Paddle ECG and Patient Cable ECG (I, II and III Leads off message — Onscreen message with alert tone. CMRR — > 90 dB @ 50 Hz; input impendence > 2.5 mOhm. Frequency response — 0.5 to 35 Hz with filter. Sweep speed — 25 mm/sec. Display time — 4 sec. HR display — 30 to 250 BPM; +/-2 BPM HR alarm — Audiovisual user selectable alarm limits; 30 to 300 BPM. 1mV cal Signal — Vertical line (variable amplitude w.r.t. Gain) Patient cable length — 3 meters Electrical isolation & shielding — Input protected against high voltage, DF pulses and radio frequency interference. Built-in Cautery filter Printer section: Recording type — Thermal Array recording Paper size — 60mm x 30 mts; print width: 50 mm. Paper speed — 25mm/sec. Print delay — 6 secs. Event Recording — Stores and prints 3 sec. Pre and 8 secs. Post critical event data upto 28 events. Print annotations — Time, Date, heart Rate, HR limit, Event marker, ECG parameters, Defibrillator mode, selected and delivered energy, patient impedance, peak current and hospital name.	
		defibrillator	• Defib design should be with biphasic technology • Energy selection should be adjustable between 2 – 200 joules • Charge and discharge button should be available both on monitor and paddles • Charging time for maximum energy level (200 J) should be less than 5 sec • Charge indicator: audio and visual	

			• Internal discharge when unit is turned OFF or automatically after time limit • Built in test charging facility, shall be available at any energy level (2- 200 J) against 50 ohms impedance • Built in automatic external defibrillator (AED) with voice prompt • Manual and AED operation • Display of selected energy • Built in thermal recorder • It should offer synchronized cardio version • Summary storage facility (INTERNAL MEMORY) • Sync and async modes shall be indicated on monitor and recorder • Defibrillator should have option for pacing ***Monitor*** • Sweep speed ; 25 MM/sec • Heart rate indicator 15 – 300 bpm • Alarm setting ; upper limit 100-250,lower limit 30-100 bpm • Hi and Lo adjustable alarm setting • Adjustable ECG size 5 levels • Monitor should have bright LCD display • Display resolution (320∗240 Pixels) • ECG should also be available thru paddles • Audio visual indication should be available for R wave detection ***External pacing*** : • Pacing rate 30- 180 pulse /min +/- 1.5% • Output current 10 – 200 mA (+/- 5mA) monophasic • Pacing mode : Demand or fixed rate • Status indicator : ECG lead fault , pace lead fault • Pulse width : 20 msec Defibrillator shock should be delivered thru paddles as well as thru multifunction disposable electrode pads ***GENERAL:*** AC input- 100 to 230 V AC; +/- 15 %; 50/60 Hz. Power consumption – 100VA	

			Battery type - Rechargeable SMF Lead Acid Battery Capacity – 12 V, 4.5 AH 7 hrs only monitoring; 100 discharges of 360 joules.	
		multi-parameter monitor	Monitor should have high-resolution active matrix SVGA TFT display. Display should be integrated and not less than 8.4" in size. Display resolution should be 800 x 600. Monitor should have adult, paediatric and neonatal modes. Monitor should have options for integrated dual channel thermal recorder. The monitor should have the following parameters: ***1) <u>ECG:</u>*** - 3 leads facility. - HR ranges 15-300 bpm. - HR accuracy +/- 1 bpm. - Pacemaker detection and lead off failure alarms. - ECG should meet AAMIU standards and should comply with IEC 2) ***<u>NON INVASIVE BLOOD PRESSURE</u>***: - Auto, manual and stat mode of operation - Measurement ranges 30-255 mm of Hg. - Accuracy +/- 5 mm of Hg. 3) ***<u>PULSE OXIMETRY</u>*** : - Measurement range 0 – 100% - Pulse range 30 –300bpm - Accuracy +/- 3 % ***4) <u>GENERAL</u>*** - Monitor should have more than 90 hr trends for all parameters - Trends should be available in graphical and tabular format - Monitor should have 2 level of alarm monitoring - Display should have intensity control for adjusting brightness - Monitor should have in-built facility for battery back up - BATTERY TYPE: Li-Ion and battery charge time: 4 Hrs to charge - BATTERY RUN-TIME: More than 3.5 Hrs with 15 min NBP operation - Monitor should have built in central station connectivity with Ethernet output	

			- Monitor should be truly portable weighting less than 3.2 Kg - Monitor should be portable with carrying handle	
		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** **Warranty : upto 1 year**	
		Modular	**OBJECTIVES** The Main Objectives :	

Prefabricated Operation Theaters

To dilute the bacteria generated by the patient and operating staff in the OT.
To prevent less clean air from neighboring rooms entering the OT.
Ensure maximum standard of safety.
Allow flexibility.
Minimizes maintenance.
Ensure functional separation of spaces.
Regulates flow of traffic
Reduce Noscominal Infections
Hygienic atmosphere
Homogenous unidirectional laminar air ceiling system
The entire work should be executed by one company only.

Scope of work:

1) Stainless Steel sheet wall panels
2) Stainless Steel Ceilings Panels inside OT
3) Antibacterial Paint inside OT
4) Double Dome LED OT Light inside OT
5) Air Ceiling Management System inside OT
6) Homogenous Low Turbulence Unidirectional Laminar Air Flow Ceiling
7) X-Ray View Screen, Writing Board, PRD
8) Surgeon Control Panel
9) Electrical wiring and fixtures inside OT
10) Hermetically Sealed Sliding Automatic Door
11) Antistatic Conductive Tile Flooring inside OT
12) Extension of Medical Gas Pipe Line System
13) AGSS system
14) Suction and Oxygen Therapy System
15) Scrub Sink to be fitted outside OT

Technical Specifications

Sr. No.	Description
1.	Indigenous Stainless Steel Prefabricated Walls & Ceilings The pre-fabricated stainless steel sheet (1.6 mm thick) walls & ceiling panels

				backed by 9/12mm thk gypsum board to provide the seamless operating room. The external walls of the room is constructed with solid brick and mortar and is in the scope of the hospital. The inner surface walls should be constructed with at least 1.60mm thick stainless steel sheets backed by 9/12-mm gypsum board. The inner surface walls should be fixed to the brick wall with essential supports. There should be minimum possible cavity/gap in between the solid and steel walls. The total distance between the inside and outside surfaces of the operating room should be variable to suit the architects' layout, but should be sufficient for the flush mounting of equipments. The individual wall panels should be spot welded together at equal intervals to render equal support to the panels. Spot welding should be properly grinded to make the surface levelled. All joints should be filled with metal filler and sanded flush on site, ready to receive the plastic finish. The cavity between the inner and outer walls should be left with minimum obstructions for the possible addition of equipment at a latter date and to enable services, pipes, conduits etc, to be run within the cavity. All wall-mounted equipment should be flush mounted and sealed into theatre. The wall panel design and construction should allow for the installation and support of all equipment and the provision of openings required for the installations, without affecting rigidity and strength. Access boxes should be fitted to the rear of all wall-mounted equipment to enable maintenance to be carried out from outside the operating room. All the sharp edges and corners should be smoothened to avoid bacteria contamination.	1 OT	
			2.	Imported Antibacterial / Antifungal Paint Anti-Microbial Protection: These product hygiene coatings start the biocidal action as soon as the microorganism land on the surface, and prevents the growth of mould, bacteria and yeasts for at least 10 year. This Hygiene coating are independently tested by leading universities to demonstrate resistance to a wide range of mixed species, including stubborn pathogens such as MRSA (Methicillin Resistance Staphylococcus Aureus). Other pathogens that can be	120 sq mtr for 1 OT	

				present in hospital environment and to which resistance is confirmed are: Acinetobacter sp, Aerobacter aerogenes, Bacillus subtilies (and other Bacillus sp) Escherichia coli, Listeria monocytogenes, Pseudomonas aeruginosa, Pseudomonas putida, Salmonella typimurium, Serratia marcescens, Staphylococcus Aureus. Lily Cycle Savings : The unparalleled durability of our hygiene coatings helps to extend the maintenance cycle and to minimize all related material, labour and shut down costs. The speed with which they can be installed and the ease of subsequent maintenance also create significant cost savings.Chemical Pesistance : These hygiene coatings should be highly resistant to abrasives, detergents and weak acids and alkalis used in cleaning regimes. Further more, they can be regularly steam cleaned without any loss of performance or adhesion to the substrate.		
				3.	Imported Conductive Tile Flooring : ESD-Control tile Flooring Flooring : Providing & fixing 2mm thick Conductive flooring with carbon backing total thickness 2.00mm, total weight 3.000 g/m2 polyurethane reinforced ,scratch resistant, fire resistant, chemical resistant , slip resistant, anti fungi & bacterial growth , dimensional stability ≤0.40%, static electrical charger < 2Kv , impact sound reduction approx +4bd, electrical resistant. Installation : The flooring would be installed on a smooth, clean sub floor which should be free from any undulation .A copper strip/mesh should be layer under the tiles, with one earthing point for every 150 sft of area and good quality water based adhesive zfor fixing as per as manufacturers recommendation. Thermal Welding : The joints must be welds by the heat fusion process to get a seamless floor. The joints in the flooring should be sealed by using a PVC welding bar of matching colour to be supplied by the manufacturer, using a hot air gun for fusion of welding bar with flooring.	50 sq mtr for 1 OT	

			4.	Indigenous MS Steel Grill for corners inside the OT : All the four corners should have return air duct outlets and also the grill of which should be made of duly powder coated MS steel.		1nos for 1 OT	
			5.	Imported Air Ceiling Management System (complete) : 1set for each OT Consist of the following for each OT: Imported 1no. of Media Bridge 3x3size for each OT Imported 8nos. Peripherial light cum luminaries to fitted inside the frame for each OT Imported 4nos. Clean Room Luminaries with RG with frame for each OT All items of air ceiling system like Media Bridge, Peripehrial Light and Clean-room luminaries and RGB luminaries should be from one single make, single origin and single standard and will only be accepted. Imported Ceiling suspended horizontal medical supply unit media bridge= 1no. for each OT : The aluminum-extruded profile should have an integrated double support rail at the bottom. Facilities for lighting, mains, extra low voltage, data and medical gases are ready for connection at central incoming point on the horizontal profile. These facilities must be arranged in type, quantity and position according to customer's request. Connection of medical gases and electrical components to the hospital system is provided through the vertical aluminum suspension profiles. The system should be arranged in a square shape having size of 3mtr x 3mtr		1set for 1 OT	

					square. It should have the following :- 8 x vertical suspensions inclusive heavy ceiling flanges and false ceiling covers, 4 x profile corners 90°, revolving., 8 x side lights, 1 x 12m additionally medical rail of 25x10mm at the inside of the system, 20nos. Electrical multipin switch + socket of Indian Origin 6/16amp with plate. , 2nos. Data socket RJ45 cat 6, wiring to be executed at site., 20 x Potential Earthing Equalization sockets with inside wiring. 2 x Equipment trolleys, large (690 mm wide) with 2 shelves. It should be supplied with two trolley carrier, wide execution including crosshead tie bar, for carrying monitoring and respiration apparatus, travelling crab with bearings, turnable by +/- 45°, 2 nos. stainless steel support tubes diameter 38 mm, 1530 mm length, 690 mm width, loading capacity 150kg. It should also have utilisable area 640x340mm coated in grey-white RAL 9002 with lateral supporting rails 25x10mm for mounting 2tubes 38mm with module 690mm weight 6.3kg and load carrying supporting base capacity 40Kg. 12nos Medical Gas Outlets Points for each OT : It should fully meets and complies with HTM 2022, HTM 02-01, C11 standards and should be duly CE marked. It should have Integral check valve Integral check valve – allows removal of the housing and socket assemblies for maintenance without closing down the entire pipeline and each outlet should be individually tested. It should be hundred metal construction. Full metal to metal seal on maintenance		

					check valve ensures no degradation over time. It should be of all hundred percent metal and must incorporate a sheerplance that ensures a fail – safe condition after accidental damage or bed jacking (causing no damage to first fix and enabling easy replacement without isolation). Construction of the terminal unit should be of machined brass and die – cast chrome collar with stainless steel rolling pins. Each of the gas specific components must have the gas service engraved onto it, to ensure safety and compliance with standard.. The box should be supplied with a flush mounting bezel as a plaster finish. Should have safety features like positive action of rolling pin latch mechanism which hold the probe securely, anti rotational locking bar and the gas indexing pin are cast into the socket assembly and cannot come loose or be removed and gas specific indexed – eliminates the risk of connecting a socket assembly of one gas to the terminal block of another, either during installation or maintenance. Imported Peripherial Light cum luminaries with frame -8nos. (Imported) for each OT: Luminaires with 3 T5 lamps 54 W. Framed luminaire cover made of highly-resistant and desinfactant-consistant laminated safety glass, laserable, semi-specular. With visual systems against glare of the lamps and of the internal highly-specular reflectors, cumulative reflexion coated, singular adjustable by up to +/- 30°. Luminaire body white, consists of sheet steel with mechanical and electrical removable carrier equipment. Protection IP 65. With dimmable electronic multi-lamp ballast with 1-10 V interface. Suitable for areas with infrared regulation. Imported Clean room luminaries with RGB with frame -4nos. (Imported) for each OT: Luminaries for surface or recess mounting in operation theatres should flush with the ceiling, for 2 or 3 T5 fluorescent lamps (49 or 54 W), Ø 16 mm. With highly-specular, anodised aluminium reflectors and optical anti-glare system for individually adjustable light distribution. Luminaries cover made of		

				highly-resistant, disinfectant-proof laminated safety glass with stylish fine-grained surface, glass pane with white coated steel frame. Closing devices are integrated automatically in the electrical safety control without lines having to be connected to the luminaire housing. Luminaire body made of sheet steel, white, powder-coated, supplied ready for connection optionally for individual or series circuit, with digital, electronic control gear in Multi-Lamp technology. Mains supply and further wiring by means of Pg 16 screw glands. With four-pole connection terminal and earth connection terminal for wires up to 2.5 mm² for mains supply and further wiring. Luminaire with ENEC and F mark, degree of protection IP 65, protection class I, 230 V, 50 Hz .Recess frames for the gas-tight installation of clean-room luminaires in IP 65 in suspended ceilings. Frame made of extruded aluminium profile, white, powder-coated, able to be put together to form a rigid, continuous frame by means of plug and screw connections, optionally in individual, continuous-line, rectangular or U-shaped arrangements. Ledge for ceiling construction material as angular ledge for covering the raw edge of the ceiling construction material. <u>Clean-Room Luminaries for RGB control</u>: Easy slave 50064482(with dimmable electronic control gear with dali Interface) LM T 16-red 54W/60 G5 Osram 10019142 LM T 16-blue 54W/67 G5 Osram 10019143 LM T-16-blue 54W/67 G5 Osram 10019144		
				6.	Imported Homogenous Low Turbulance laminar air flow ceiling for each OT. It should be Ultra Clean Ventilation System with Unidirectional Flow. It should be draft-free, confortable room climate and minimal, undisruptive noise level. It	1nos for 1 OT	

					should have minimal pathogen concentration (, 10 CF U/m3) in the sterile field. It should have highly economical energy consumption from a very low pressure drop. It should be perfectly seamless integration of ceiling mounted equipment and OT Ceiling. It should be flexible modular range of solutions, adjustable to the local requirements .It should be made out of high quality and durable materials, filter housings and pressure chamber are made out of high-end stainless steel (quality : 1.4301). The frame for the CG-Diffuser and the surrounding equipment are constructed from high quality, anodized aluminum profiles. The air velocity with 0.25 m/s and should have air volume (in flow) of 5440 m3/h. It should have aerosol port for pressure differences measurement. It should have separate seal leak test ports for each minipleat Hepa- filter (in conjunction with test groove). Laminar air flow should not be a grouping of filter housings plus a perforated plate. Filter technology : The filter and laminar air flow ceiling should be from same manufactuere. It should have a low pressure drop allows for the long-term usage of the HEPA Miniplet H13 filters. The filters must be need to be changed after two /three years, providing a significant saving of the running cost of the Laminar Flow Ceiling. It should have reliable filter efficiency our filters are guaranteed to remove particles and gems with the usual H 13 filters retaining 99.95 % of the particles and germs. It should have minimal pressure drop a low pressure drop ensures the energy saving characteristic of the Laminar Flow Ceiling . The pressure drop of 93 mm H 13 filters should be only approx. 60 Pa. at an airflow of 1000 m3/hm3. It should be mandatory to have test certificate for the filters from the original mfr of filter and laminar air flow system. Filter should be according to EN 10204 ("ULPACAT-Test"). It should be protected on		

					both sides against inadvertently touching the filters. Unidirectional air flow : The high quality CG-Diffuser should secures the unidirectional airflow according to EN ISO 14644. The double-layer textile screen constructed from specialized material with more than 100 fibres/cm, ensures an even diffusion of the air. This technology must avoids turbulences which might otherwise draw germs from the non-sterile area into the operating field and which low cost materials, one layer diffusers, or perforated plates can not guarantee this. Powerful, low noise recirculation system : It should have low noise recirculation systems guarantee compliance with noise levels of ≤ 45 to 48 dB(A) required by European standards. Minimizing the noise level should be highly important for the OT team, which has to stay focused on the medical procedure over many hours. CG3 aluminum frame : It should be perfect integration in the operation theaters and should be rigid frame system, made from anodized aluminum profile enables the perfect integration of the OT Ceiling with the surrounding installations. The OT lighting should be integrated into a frame system which ensures its air sealed integration with the OT ceiling. The installation frame of the lighting should no longer required. The frame system should allows the seamless and air-sealed coverage of all gaps between the various installations and for the direct connection to the remaining OT ceiling OT ceiling – a perectly integrated solution for the OT. Filter – and Diffuser – Frame : It should be made out of galvanized Aluminum profile with integrated frames for the placement of the filter – cells, made out of stainless steel (DIN 1.4301) and for the placement of the frame for the CG-Diffuser. The Aluminum profile provides Aluminum rails for the easy and		

				seamless placement of the false sealing or other connecting equipment. The Aluminum profile is prepared for the integration of the sterile field and O.R. – illumination, when combined with the rail system for the O.R. illumination. Sterile Air Diffuser CG : Transparent diffuser with double layer micro mesh, made out of specialized textile. Assembly and disassembly without screws or tools. Air- flow optimized frame made out of Aluminum profile. Pass through of the stand of the O.R. light. Light bodies can be positioned directly in the frame.		
			7.	Imported Double Identical Dome Ceiling OT LED Light 160000Lux X 160000Lux It should be twin dome and power LED which should provide direct, reflection free illumination which allows to have double the efficiency compares to conventional light source. It should be cool infrared-free light at the head are of the surgeon for fatigue-free operating and prevents tissue from drying out in the OT filed. It should have LFL lens combination and have the primary optics which guides the light in a parallel, while secondary optics ensures beams of coherent light. The results should be an excellent illumination in the OT field in terms of area and depth. It should be flat, sealed light body specially designed for laminar flow ceilings. It should have flow optimizes light head and reduced surface temperature minimize turbulences in laminar air flow. It should have individually adjustable color temperature in three stages from 3800 Kelvin, 4300Kelvin, 4800 Kelvin. Color rendering index RA>95. Light filed diameter :210-300mm Depth of illumination: 800mm	1nos for 1 OT	

				Infra-red thermal radiation at 100000lux :325W/m2 Lamp service life >40000hours Protection category of light head : IP54 Dimensions of 160000Lux light head : 800x720mm It should have green light for endoscopic illumination Temperature at light head surface <27.5C. It should have camera preparation with cable and wiring for camera The Led light should fulfills the requirement of the standard for turbulence-free OT lights as per DIN 1946 Part-4 (2005). There should not be uplift since the average degree of turbulence is below 26C.		
			8.	Indigenous Door and Frames : Hermetically Sealed Sliding Automatic Door Size 1500mm x 2100mm with vision panels, 300mm X 300 mm. To maintain sterility and the correct air pressure in the room, all doors into and out should be of the sliding, hermetically sealing type. Track system and door blade guide system : Track made of a patented anodized aluminum profile, size 90 x 110 mm. This rubber gasket is exchange-able. The door blade is 60 mm. thick and on both sides flush finished with hygienic hard plastic laminate. The built up of the door: Anodized aluminum surrounding, 4-sided, blind fixed. Door core made of CFC-free Polyurethane or EPS, thickness 48 mm. As top layer on both sides is hard plastic laminate of size 6mm. The total door blade thickness is 60 mm., flush on both sides. Frame profile : It should be sliding door , standard delivered with an anodized aluminum angle profile. This aluminum profile is 3-sided and blind fixed to a finished wall opening. The door blade gasket will seal the opening to this aluminum profile. Lock in the door blade: Espagnolet lock for a	1nos for 1 OT	

				automatic operated door. There should be electro mechanical lock mounted on the track and on both sides a key-switch on the finished wall with Euronorm cylinder and 3 keys. Automation with 2 sensors foot operation and hand sensors (magic switch): Control: Microprocessor-controlled and regulated electromechanical sliding door drive. Power supply: 1*230 Vac +15% / -20% or 1*110Vac +30% / -20%. Frequency: 50 / 60 Hz and power Consumption - Minimal :18 W and Maximal : 450 W. Drive :3 phase AC motor and Nominal Motor power:90 W. Maximal Motor power :225 W. Motor regulator: Microprocessor controlled motor driver. Max. door weight : 250 Kg and Max. door width: 3500 mm. Slow speed (V slow) :20 - 120 mm. / sec. and Starting speed (V start) :20 - 220 mm. / sec. Opening speed (V open) :V slow - 800 mm. / sec. and Closing speed (V close). V slow - 500 mm. / sec. Pedestrian opening :10% - 90% of the available door opening.			
				9. Indigenous Surgeon Control Panel (6 Tile) Control panel should have all the controls within the theatre will be located on a membrane type control panel mounted in the theatre wall. The panel will incorporate all the necessary controls for the correct operation and monitoring of the equipment and services within the operating theatre. The time elapsed digital clock and real time digital clocks shall have high brightness characters, The medical gas alarm will indicate High and Low gas pressure for each gas service present in the operating theatre and will have an audible buzzer with mute facility. The medical gas alarms will be connected to local pressure switches located downstream of the last isolation valves. Each control panel will be of 6tile and will have display for Time elapse clock, Standard Clock, Temperature and Humidity, Clean room luminaries, Telephone, Medical Gas Alarms.		1nos for 1 OT	

			10.	Indigenous Writing Board (List Board) Size: 1000x700x60deep Size: 1000x700x60deep:Writing board should be made of ceramic having Magnetic properties and should be flushed to the wall of the operation room.		1nos for 1 OT	
			11.	Indigenous X-Ray Viewing Screen Size :1000x700x95deep :Twin plate X-ray view screen should be with electrical safety codes for high & low voltage system. The theatre is to be equipped with 2 plate X-Ray viewing screens. It should be designed to provide flicker free luminance for the film viewing purpose. It should be installed flushed with the theatre wall for hygiene and ease of cleaning.		1nos for 1 OT	
			12.	Indigenous Storage Unit :Size 1700x865x350deep The storage unit mfr from 1.2mm of Stainless steel. The doors of the storage cabinet should house vacuum insulated glass, these doors should be installed on the storage units with the help of imported fittings allowing an opening allowance of at least 160degree. The storage unit should be divided in 2 equal parts and each part should have individual doors with locking system .Each part should be provided with steel racks which should be completely detachable type.		1nos for 1 OT	
			13.	Indigenous 2 Bay Surgical Scrub Sink Two Bay Surgical Scrub Sink with electric photo sensors and manual foot mode to be fitted outside the OT : Surgical Scrub sink should be designed for use in Operation theatre complex providing surgeons with a convenient sink for pre op scrub up. Each fixture should be fabricated from heavy gauge type		1nos for 1 OT	

					304stainless steel of 1.5mm thickness & should be seamless welded construction polished to a satin finish. The scrub sink should be provided with a front access panel, which should be easily removed for access to the water control valve, waste connections, stoppers & strainers. Hands free Operation should include infrared sensor and foot operator with built in range of adjustment. Thermostatic Mixing Valve control should be located behind the access panel & maintain constant water temperature. User defined settings of 1,3,5,10 min are available. This timing should be adjustable to meet individual application requirement, provided with infrared sensor thermostatic controlled taps with fail-safe temperature controls. All units should have reduced anti splash fronts. It should have manual foot and operation mode. Hospital should provide geyser for warm water.			
				14.	Indigenous Distribution Board Electrical Distribution Board will have all high voltage equipment should be installed in a separate enclosure. The remote cabinet should house the operating lamp transformers, mains failure relays, electrical distribution equipment and circuit protection equipment for all circuits within the operating theatre. All internal wiring should terminate in connectors with screw and clamp spring connections of the Clip-on type mounted, on a DIN rail. Individual fuses or miniature circuit breakers should protect all internal circuits.		1nos for 1 OT	
				15.	Indigenous Pressure switches for surgeon control panel alarm.		4nos for 1 OT	
				16.	Indigenous Pressure Relief Dampers/Cascade Stabilizer Pressure relief dampers should be provided in each room to prevent		1nos for 1 OT	

				contamination of air from clean and dirty areas. Suitably sized air pressure relief damper should be strategically placed, enabling differential room pressure to be maintained and ensure that when doors are opened between clean and dirty areas. Counter- weight balancing system should be provided in the PRD to maintain positive pressure inside the operation room.			
				17.	Indigenous Electrical wiring, Conduting with fixtures inside the OT Wiring with Low leakage current wires of FRLS wires as per requirements including providing and fixing of conduting and boxes etc. to complete the work in all respect. Wiring for 250 volts single phases and neutral 6/16 amps switched socket outlet.	1lot for 1 OT	
				18.	Imported Medical Gas Hose Assemblies Medical gas hose assemblies shall comply with BS EN 739. Hoses shall be color coded throughout their length. All hoses shall incorporate an anti-static inner core. Hose shall be permanently secured to all fittings with stainless steel crimped ferrules, and shall incorporate a window to enable verification that the hose is fully secured onto the hose barb as specified in BS EN 739 as follows: ▪ Medical oxygen - white ▪ Nitrous oxide - blue ▪ Medical and surgical air - black ▪ Vacuum - yellow	20mtrs for 1OT	
				19.	Imported Kite Mark certified Medical Grade Copper Tube and Fittings The piped distribution system shall use copper pipes manufactured from phosphorous de-oxidised non-arsenical copper to BS EN 1412:1996 grade	12mmOD=100mtr	

				CW024A (Cu-DHP), manufactured to metric outside diameters and having mechanical properties in accordance with BS EN 13348:2008 in either R250 (half hard) or R290 (hard). Copper pipes shall be carry the officially licensed BSi kitemark and certification shall be provided for review. Degreasing of pipe shall be such that there is less than 20mg/m2 (0.002mg/cm2) of hydrocarbons on the degreased surface when tested by the method specified BS EN 13348:2008. Copper fittings shall be end feed type, manufactured from the same grade of copper as the pipes and be in accordance with the requirements of BS EN 1254-1:1998 Part 1. Fittings shall be degreased suitable for oxygen use and be supplied individually sealed in protective polythene bags.	15mmOD=200mtr 22mmOD=150mtr	
			20	Imported Trolley Mounted High Suction OT Units It should be duly CE marked and comply with 93/42/EEC Medical Devices: General and should have CE no. from a notified body. Certificate of Origin must be given. Certificate of Origin must be given. It must consists of the following :- 1no. Digital Suction Regulator and 2nos. 4000ml Polysulphone collection jar and both to be mounted on a trolley. Digital Suction Regulator : Digital Vacuum Regulator should have digital display which can be easily monitores at a long distance. The precise LED bulb enables medical profession to monitor pressure. The unobstructed adjusting knob design allows one hand operation. Digital Vacuum Regulator should be supplied with collocated with 4pcs of AAA alkaline battery, allowing it for continuous vacuum up to 500hours. Zero battery waste when the regulator is on OFF mode. The Battery power bar Alarm display allows easy Understanding of battery condition. The 8 power bars shall exhaust (1 hr/bar) only when battery power is less than 2.5 volts. This Feature helps users to avoid any immediate	2nos for 1 OT	

operation power shut down without any early warning. The battery off alarm shall` exist until all bars diminish.

It should have an accuracy is +/- 1% of full range. Keep the elegant REG/OFF/FULL mode set up design

Compact Light weight and durable construction design. Easy pressure adjusting knob, simple operation

Large digital number display with Low/Med/High level Display Design. Eye catching LED indicate color lights corresponding to color code ranges(Green/Yellow/Red). It will not waste battery power when the status is on OFF mode to allow extending battery life. Digital battery power bar alarm display. Allows easy understanding of battery Power condition.

3 mode selection digital REG/OFF/FULL

Vacuum regulator:

Pressure indicator light: Green Light: 0-80 mmHg
Yellow Light: 80mmHg-200mmHg
Red Light: over 200mmHg

Pressure measurement +/- 1% of full scale

error:

Battery Requirement AAAx4

Battery Continuous Usage: Alkaline Battery: 500 hrs
Regular Battery: 190 hrs

Digital Gauge: Pressure Detection range 0-600 mmHg

Size without adaptor: 3.07” (W) x 3.94” (L) x5.79” (H),

				Polysulphone Collection Jar : 2nos. Polysulphone collection Jar of 4litres with lid : it should be unbreakable and autoclavable upto 134º C must be fitted with an extremely simple anti overflow safety device, thereby ensuring easy maintenance. Should be totally transparent, they ensure perfect sucked liquid visibility.		
			21.	Imported Anodized Aluminum body Oxygen Flow Meter with Humidifier Bottle It should be duly CE marked and comply with 93/42/EEC Medical Devices: General and should have CE no. Certificate of Origin must be given. Pressure compensated to prevent back pressure build up on flow indicator. Durable polycarbonate flow tube with cover. It should be made up of anodized aluminum body and control knob. Flow meter should have twin graduated scale which must provides precision control permanent scale graduations. Flow meter should be placed in the vertical position. It should be light weight of 200g. It should have +/-4% gauge accuracy. Inlet pressure - 50-60 psi. The flow meters should be of 1-15 LPM range for oxygen and with inlet pressure 50-60psi. Bubble Humidifier bottle should be unbreakable, reusable to disinfectants and complements.	1nos for 1 OT	
			22.	Imported Single Service 22mm Area Valve Unit (O2/N2O/MA4 Air/ Vacuum) It should fully meets and complies with BS 5684, BS 6832 and HTM 2022, HTM02-01, C11 standards and must be duly CE marked with CE no. specified on it. The Area Valve Service Unit (AVSU) should incorporate a ball value with NIST connectors either side, mounted in a lockable box with emergency access. The	4nos for 1 OT	

					value should be complete with copper stub pipes that extend to the outside of the box to enable easy connections to the Medical Gas Pipeline System (MGPS). The value should operate from fully closed to fully open with a quarter turn of the handle. The spades should be injection molded and color coded to show through or blank identification. Should be full bore values for minimum pressure loss and should have lockable in open or closed position. The Lockable Line Values shall comprise full-bore ball value complete with copper stub pipes for ease of installation. The values shall be connected to the copper stub pipes by means of flat faced unions fitted with nitrile O-ring seals, allowing removal of the value without the need to distort the pipe work. Stub pipes for values up to 54 mm will be connected to the value body using screwed connectors, whist value above this size will use flanged connectors. The value will have a brass body, end cap and stem, with a full –bore chrome plated brass ball. The value shall operate from fully closed to fully open with a quarter turn of the handle. All line values will be supplied with a mechanism to enable the unit to be locked in the fully closed or fully open position. The stub pipes should have the appropriate coded NIST connectors fitted each side of the value. The NIST check values should have a metal seal, thus avoiding the possibility of digression over time. The value box should have a universal back plate for first fix mounting and an injection molded, cover which fits over the installed value. A color coded service identity label will be fitted behind the value handle . The door should also be injection molded and will be common for all services. The door should incorporate a 'Break Glass' window or an optional quick release mechanism for emergency access to the value. Should be reliable and easy to operate and must have NIST connectors facilitate easy purge, sample and pressure testing, and emergency, supply system. Should be easy site installation with prefitted stub pipes. Should have break glass emergency access fitted as standard. Should have optional quick release emergency access system. The Area Value Service Unit (AVSU) should incorporate a ball value with NIST connectors either side, mounted in a lockable box with emergency access. The value should be complete with copper stub pipes that extend to the outside of the box to		

				enable easy connections to the Medical Gas Pipeline System (MGPS).		
			23.	Imported Low Flow Vacuum Unit It should fully meets and complies as per EC Directive 93/42/EEC Annex II, article 3. full quality assurance system medical devices. It should be duly CE marked and CE no. to be specified. Certificate of Origin must be given. It must consists of the following :- 1no. Suction Regulator and 1no. 1000ml polysulphone collection jar. Suction Regulator : Suction regulator should be supplied with a safety jar, including antibacterial filter and an anti overflow safety device. Should have wide membrane continuous suction controller. Should have vacuum levels : 0-250mbar/hPa. Should have vacuum gauge fitted with a protective bumper device. Should have on/off knob allowing for the quick restoration of a readjusted vacuum level. Must have central adjustment knob with a color coded for 0-250 mbar/hPa. Should have polycarbonate 150cc safety jar, autoclavable at 121º C, unbreakable, fitted with an anti overflow safety device and equipped with a plastic antibacterial filter. Suction regulator must have a unique serial number stamped on the body of each suction regulator , thereby allowing for identification and trace ability. Polysulphone collection Jar of one liters with lid : it should be unbreakable and autoclavable upto 134º C must be fitted with an extremely simple anti overflow safety device, thereby ensuring easy maintenance. Should be totally transparent, they ensure perfect sucked liquid visibility.	1nos for 1 OT	
			24.	Imported AGSS Terminal Units It should fully complies and meets with BS 6834, HTM 2022, HTM02-01and C11, and must be duly CE marked with CE no. specified on it. It Should have Integral balance value is accessible through the front of the outlet. Should be Individually tested. Must be compatible with the AGSS Receiver System.	02nos for 1 OT	

					Construction of the first fix terminal block shall be of machined brass and copper. The second fix assemble should incorporate an adjustable orifice for flow controls so that system balance can be achieved without the need to remove the fascia plate. The unit should be enclosed in a white ABS decorative mounting box with an ABS fascia. Both the mounting box and fascia should have rounded corners to avoid possibility of injury. The box should be supplied with a flush mounting bezel as a plaster finish.		
				25.	Imported AGSS Remote Indicator (Plastic) to be fitted inside the OT It should fully complies and meets with BS 6834, HTM 2022, HTM02-01and C11, and must be duly CE marked with CE no. specified on it	1nos for 1 OT	
				26.	Imported AGSS Hose Assembly with Probe to be fitted inside the OT It should fully complies and meets with BS 6834, HTM 2022, HTM02-01and C11, and must be duly CE marked with CE no. specified on it	1nos for 1 OT	
				27.	Imported Duplex AGSS Plant 780l/min It should fully complies and meets with BS 6834, HTM 2022, HTM02-01and C11, and must be duly CE marked with CE no. specified on it Duplex AGSS System with twin AGSS pumps of 3phase 780 Lpm capacities each with built in flow indication and pressure regulation valve. It should be mounted on single frame with control panel and separate warning label. Active anesthetic gas scavenging systems should be designed to safely remove exhaled anesthetic agents from the operating environment and dispose of them to atmosphere, thus preventing contamination of the	1set for 1 OT	

				operating department and providing a safe and healthy workspace for the personal. AGSS design should be dependent upon flow rate and pressure drop characteristics of the individual components of a systems, it is essential that terminal units, remote controls and pump units.			
			28.	AGSS wiring from AGSS plant to all OT		1lot for 1 OT	
			29.	Hand Rail Crash Guard System for outside OT: The system fixed to brick wall at 900mm center high from finished floor level comprising continuous aluminum rail retainer, adjustable rail mounting base, with impact absorbing strip, end cap and high impact vinyl acrylic snap-on textured surface cover.		20mtrs	
			30.	Corner Guard Protection System for outside OT. The system fixed to brick wall at the corner from finished floor level. Adjustable end cap. High impact vinyl acrylic snap-on matt finished. “50mm wide x 10mm thickness x 900mm length “. Corner guard system consist of following: PVC cover, base, top and bottom end cap in different color etc.		10nos.	
			Special Condition and Experience Criteria Bidders should have past experience of any one or both i.e. modular prefabricated operation theater and medical gas pipe line system and should have successfully completed as a prime contractor one project of modular prefabricated operation theater + medical gas				

			pipe line system or modular prefabricated operation theater only or medical gas pipe line system only in India for a value of minimum Rs.09crores or two projects for a value of Rs.6corores or three projects for value of 6crores in any government hospital/institutions in India during last five years. The copies of orders /completion certificate shall be submitted. T*he value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum; calculated from the date of completion to last date of issue of tender papers*. and there will be no relaxation in the above is permitted and allowed. Bidders should have an average annual turnover for past consecutive five years of minimum twenty hundred lakhs ending 31st March 2011 in the immediate last 5 financial years. Tenderer should not have occur any loss in any of the past 5 financial years. Profit and Loss account should be submitted. CA certificate for the immediate last five consecutive financial years should be submitted along with the bid. No relaxation in the above is permitted. Bidders should have a minimum bank solvency of 500lakhs from a nationalized/scheduled bank. (copy of the solvency certificate must be submitted. Bidders should be registered with ESI/PF. Registration certificate must be submitted. Bidders should submit a mandatory letter of authority from the distributor of original Foreign Principal / Manufacturer for the quoted products. The Indian agent who is quoting on behalf of original Foreign Principal /Manufacturer for the quoted products must be	

			distributor with the similar company for continuous last five years for the quoted products. Letter should be submitted in this regard as a proof for experience and failing which bid will be rejected. Bidders should not be blacklisted or debarred in the past by any government institute/hospital (in the past means since incorporation of the company) Eligible Bidders must submit an affidavit on stamp paper and failing which bid will be rejected. False information if submitted then bidders will be black listed or debarred from any government hospital/department. Eligible Bidders who are registered in India and have minimum 5years standing/experience of modular prefabricated operation theaters/medical gas pipe line system in India can only apply. Proof of firm minimum 5years old registration certificate alongwith TIN no certificate, Pan card and one order of modular prefabricated operation theater/medical gas pipe line system from any government hospital/institution/department in India. Bidders should have past experience of execution of minimum fifteen modular prefabricated operation theater in government hospital in India during last in the last 5 years ending 31st July 2011. Bidders should clearly mention country of origin with name of Mfg., company for each and every products quoted by them and failing which bid will be straight way rejected. All medical gas pipe line products should be from one single international standard either HTM 02-01 2006, C11 and CE marked .	

			Bidders who are quoting the bid should have at least one AP from MGPS LTD UK an independent body on HTM02-01 standards. Copy of the certificates must be submitted along with the bid. Bidders should not quote any optional items. If any firm quotes any optional items they will disqualified. Firm must quote strictly as per the desired specifications and items mentioned in Tender requirement and failing which bid will be rejected. No joint venture or work executed by two companies will not be considered. Tenderer should not quote any optional items. If any firm quotes any optional items, they will be disqualified. Firm must quote strictly as per the desired specifications and items mentioned in BOQ and failing which bid will be rejected. As this is a time bound Project, accordingly, offers from bidders who can comply & ensure timely completions of the Project within 8 months will be appreciated. If any information furnished by the applicant is found incorrect at a later stage, the applicant shall be liable to be debarred and blacklisted from participating in future tenders. The department reserves the right to verify the particulars furnished by the applicant independently. Even though the agency meets all the criteria, TMC reserves the right to accept or reject any applicant/disqualify any agency without assigning any reason whatsoever.	

			Notwithstanding anything stated above, the Purchaser reserves the right to assess the Tenderer's capability and capacity to perform the contract satisfactorily before deciding on award of Contract, should circumstances warrant such an assessment in the overall interest of the Purchaser. The Purchaser reserves the right to ask for a free demonstration of the quoted equipment at a pre determined place acceptable to the purchaser for technical acceptability as per the tender specifications, before the opening of the Price Tender. The applicants are advised to visit the site to get first hand information as regard its approach, accessibility, working conditions, site conditions, availability of labour and material etc. and other matters affecting cost and work. All costs incurred in connection with submission of the pre-qualification application shall be borne by the applicant irrespective of the outcome.	
		SYRINGE INFUSION PUMP	**Syringe range:** 10 ml – 50 ml of all brands. **Flow rate ranges:** 0.1 – 200 ml/hr for 10 ml syringe in 0.1 increments. 0.1 – 300 ml/hr for 20 ml, 30 ml or 50 syringe in 0.1 ml increments	

			Flow rate accuracy:	+/- 2% (Measured time > 1hr, min 0.2	
			Rapid mode for purge or bolus		
			Bolus Rate:		
				Approx. 200 ml/hr (10 ml syringe)	
				Approx. 350 ml/hr (20 ml syringe)	
				Approx. 450 ml/hr (30 ml syringe)	
				Approx. 800 ml/hr (50 ml syringe)	
			Occlusion pressure limit:	0.2 to 1.2 kgf/ sq.cm, At least 3 levels.	
			Volume infused display:	0.1 – 999.9 ml in 0.1 ml increments wit resetting function.	
			Time infusion:	1 min. to 200 hrs.	
			Alarms (Audiovisual)	No mains, Low battery, discharged batt min. to the end of infusion, end of infus min. to the end of syringe, empty syring increase of pressure, occlusion, line disconnected, no syringe/ incorrect syri pause / end of pause in infusion, interna malfunction, occlusion, syringe disengag	

				internal malfunction.	
			Modes of operation	ml/min, ml/hr, ml/24 hr/, volume over	
			Keep vein open (KVO)	Programmable 0 – 5.0 ml/hr.	
			Event log	Records of operation activities or alarms date and time of event.	
			Power supply	100-240 VAC, 50/60 Hz, Power consumption 15 VA.	
			Battery	Rechargeable Nickel cadmium, Battery life >5 hrs (Fully charged new b Recharge time: max 5 hrs.	
			Operating conditions	Temperature: 5 –40 degree Celsius, Humidity: 30-85%.	
			Compliance with Universal safety standards		
			Standard accessories	Power cord (atleast 3 m long) Pole clamp	

			Operator's manual.	
		ICU BED ELECTRICALLY OPERATED	1. It should be a Closed, easy-to-clean and corrosion-free powder-coated resp. anodized, resistant to chemicals. 2. It should have Ground clearance over the whole width and length at least 18,5 cm. Customary patient lifters comply with the bed. 3. It should have Ground clearance under the lift columns amounts 4 cm. 4. It should have Triple-telescope-columns maintenance-free and capsuled integrated. 5. It should have 2 synchronized motors (24 V low voltage) for parallel height positioning with electrical control (synchronization control) in max. 26 seconds. 6. It should have Trendelenburg 12°/reverse-Trendelenburg 14° electrically adjustable by the nurse control. 7. It should have Load capacity 100 kg/caster. 8. It should have 4-caster central brake directional stability/wheel alignment by means of footboard pedal. The lying surface should be removed in 4 parts. It should have Optimized mattress fixtures on both sides. It should have Ergonomic arrangement of back, seat, thigh and lower leg section with 90 cm (35.46 in.) long back section. 9. Pressure in the stomach section should be avoided and breathing improved. 10. Back section (0-70°) and thigh section (0-45°) should be individually positioned with safety freewheel. 11. It should have Preselection of the leg section positioning (bent-knee or stepped bed positioning). 12. It should have additionally manual positioning of the lower leg section for stretched raised leg positioning (0-16°) by means of a step less hydro-lift positioning unit. 13. It should have quick lowering of the back section for reanimation (CPR). 14. It should have Headboard acceptance on both sides for trapeze bar, IV pole and further Accessories. 15. It should have Bed sides with integrated accessory rails over the whole length for flexible acceptance of accessories.	

			16. It should have quickly removable head and foot sections. 17. It should have Frame with heavy collision edge. 18. It should have four horizontal wall protection wheels at the four edges, two vertical walls 19. Protection wheels Headboard. 20. It should have Pressure reduction system (The patients are motivated to further mobility by the micro-Stimulating effect of the pressure reduction due to their proper motion). 21. This innervations leads to pressure ulcer prevention due to an improved circulation up to a therapy support and treatment of chronicle wounds. 22. The insert elements of the lying surface should be removed completely and are expandable to an active System. 23. It should have hand control unit (can be fixed on both sides) in execution incl. lock switch. 24. It should have following Versions for hand control unit: 25. Horizontal with clip for assist rails 26. With additional auto-contour-function 27. With thigh-section adjustment 28. Nurse control with complete locking in the bedding deposit: 29. Positioning of the lying surface as "Hold-to-run" function. 30. The functions of the height positioning, Trendelenburg and reverse-Trendelenburg "Hold-to-Run" and automatic function. 31. It should have 4 electric motors of the electrical protection class II (double protective insulated). 32. It should have Thermal fuse and electronical control against overheating. 33. It should have Emergency lowering possible by means of batteries. 34. It should have battery backups 7,2Ah for operation without power supply, sufficient for at least 10 positioning cycles under maximum allowable load. 35. The bed should be electromotive operated continuously max. 4 minutes within 10 minutes. 36. It should have Data communication by means of standardized LIN bus. 37. It should have Absolute placement by means of potentiometer that	

			means no limit switches. 38. It should have reset possible by means of pushing a button without reference run. 39. It should have 2-parts, variable assist rails made of aluminum profiles. 40. It should have unhindered access to fixed accessories and patients in all positions of the assist rail–Also in unused status. 41. It should also elevate no modification of outside dimensions of the bed. 42. It should have Therapy and side bedding function. 43. Assist rails should be positioned in two-stages. (First stage as visualization of the bed sides and Mobility grip. Second stage as protection against unintentional falling down. Safe hold between the two-part assist rails during getting in and off) 44. It should have Simple operation and safety lock. 45. It should not be unlocked on-load for safety reasons. 46. It should have Lateral ram protection made of special plastics. 47. In case of overload plastically deformation. No sudden break of the guide or the assist rails. 48. Assist rails should be permanently with good sliding quality without greasing. 49. Color and design of the head and foot boards should be acc. to choice of the customer based on the design and color chart of the offerer. 50. It should have Diagnosable bed system of an automotive standard. 51. It should have Software and gateway for data transfer, diagnostics and error detection, repair instructions, spare part orders, guided technical inspections including all necessary documentation locally or on a web server made available including all software updates. 52. It should have closed components with smooth surfaces make the bed extremely easy-to-clean. 53. It should have following Dimensions: 54. Width lying surface: 90 cm (35.46 in.) 55. Length lying surface: 200 cm (78.80 in.)	

			56. Width outside dimensions: 99 cm (38.61 in.) 57. Length outside dimensions: 216 cm (85, 10 in.) 58. Height positioning range: 40 – 80 cm (15.76 – 31.52 in.) 59. Steel single caster: 150 mm diameter 60. Weight: 150 Kg	
		BED SORE PREVENTIVE MATTRESS FOR ICU BED ELECTRICALLY OPERATED	1. It should be a basic hygienic mattress with excellent price performance suitable for short term patients or when a firmer mattress is required 2. The mattress should be cleaned by using alcohol based detergents. 3. Mattress cover must have a vapor permeability that is lower than 300gr/m2/24h,to avoid transmission into the materials. 4. It should provide good medical comfort for the patients without reducing quality or hygiene. 5. The mattress must have a pressure distribution test from an independent test institute. (Please enclose test report) 6. It should be a homogenous mattress made from coldfoam with a density of 35 kg/m3 7. The mattress should operate without any electrical supply 8. The mattress must fulfil EN 597-1/2 (Cigarette and match fire	

			resistance test) (Please enclose test report) 9. The mattress should be a sealed system without any zipper or seams 10. It should have medical device standards 11. The mattress should provide the hospitals the best possible total cost performance 12. Minimum warranty of the mattress cover should be 5 yrs.	
		MULTIPURPOSE ELECTROMECHANICAL OPERATION TABLE	1. Five section x-ray translucent top with inbuilt kidney bridge 2. Provides all surgical positions 3. Minimum height 28" & maximum height 42" 4. 304 grade S.S fully electro-polished 5. Die presses S.S cover on base without any edges and wielding. 6. Head, leg & pelvic sections are interchangeable 7. Electric floor locking mechanism 8. Very heavy duty base for total stability 9. Addition fixed control provided on the table top in case main Hand set fails 10. Approx. weight 250 kg. 11. Mattress size:-(50mm thick & 60 density) 12. Base size: 18"W x 36"L x 5"H 13. Side Railing 30 x 10 mm Should be provided with following attachments	
		<u>ORTHOPADEIC ATTACHMENTS</u>	1. Traction Device Arm 2. Extension Arms 3. Traction Device 4. Traction Shoe 5. Movable Pelvic Support (Adult) 6. Inner Thigh Column with Pad. 7. L-Shape Knee rest with Pad.	

			8. Lower Leg Support. 9. Inner thigh support with pad for traction in lateral	
		NEURO ATTACHMENTS	1. Sujita head clamp (prone for adult & ped.) 2. Mayfield head clamp 3. Horse Shoe 4. M-type face head rest	
		UROLOGY ATTACHMENTS	1. A Set of mattresses 2. A pair of shoulder support 3. A pair of Side Support 4. A pair of knee crunches with ball & socket joints 5. Anesthetic screen 6. Arm Rest – 2Nos. 7. Urological drainage tray 8. with sive attachement 9. Instrument Tray	
		AIR STERILISER	1. Rated voltage should be 230V 50 Hz 2. Consumption should be 70 W 3. Should have Level of air purification 92% 4. Range should be 56 m^3/h 5. Noise level should be 29dB 6. Installation should be vertical wall mounting 7. Operation should be continuous 8. External UV-C emission should be none 9. Danger level should be none	

			10. Equipment should have pre-filter in the air intake 11. Life of UV-C tubes should be 3000 hours 12. Air nozzles should be fixed 13. Casing should be in aluminium 14. Lamp switch should have anti UVC glass 15. Lamps should have 2x 6w- T5 UVC tubes 16. Wavelength should be 254 nm 17. Colour should be Ral 9010 18. Weight should be 3.5kg 19. Dimensions should be 45x18x8cm 20. Dimensions of packaging should be 50x19x9cm 21. Volume should be 0.008 cu.m.	

Department of Physiology

S.No.	Item Code No.	Name of Equipment	Specification	Comp./Divt.
1		Manneqin for clinical exm.& artificial respiration	This manikin 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 masks.	
2		Projection Microscope	NAC. Code BDI With 200mm diam. Graduated screen 360 degree rota table quadruple revolving nose 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.	
3		Anthropometric set (complete with all type of calipars	Height, Weight recorder, Calipers for measuring skin fold thickness'. 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,	
4		Portable Spirometer	Data transmission : Rs 232 interface to Pc through SeMA software.LCD display for graphical and numerical values.	
5		Aesthesiometer	For Tactile Sensation(Von Freyes)	
6		Dynamometer	-Hand spring (grip) dynamometer	
7		Wright peak Flow Meter	Wrights peak floe meter:- • Type of device: variable orifice peak flow meter • Range: 50-800L/min • Accuracy: better than 10% • Scale interval: 10 L/min below 700, 20L/min above • Measuring principle: piston/ spring and moveable pointer • Frequency response: profile A/B difference less than 15 L/min • Cleaning: alcohol wipe • Life in clinic use: annually • Net weight: 74 grams Dimension: 150X60X34 mm(including internal mouthpiece)	
8		Stethoscope Demonstration with multiple ear pices	Stethoscope with a single chest piece and multiple ear pieces for demonstration purposes	

DEPARTMENT OF DARMATOLOGY

S.No.	Item Code No.	Name of Equipment	Specification	Comp./Divt.
1		RADIOFREQUENCY UNIT	Frequency 3.8 Mhz Power output 140 walts Tungsten wire electodes Autoclavable hand piece and neutral Plate Finger switch and foot switch activated	
2		PUVA Chamber	32 Lams 120/240 VAC 311 UVB NB LT 100W	
3		Cryo Surgery Unit	Wave Length 1064 mm/532 nm Spot Size 2 mm, 4 mm, 6 mm Fluence upto 12.5 J/Cm^2 Pulse width 3+/– 1 NS	
4		Long Pulse Nd : YAG Lager	Freq. 532, 1064 nm Energy 200-2000 mj Spot Size 3 mm, 6 mm, 9 mm Fractional HP 9 mm	
5		Fractional CO_2 Lager	Wavelength - 10600 Power to Tissu 25 W Operation Mode CW, Single Pulse Ultra Pulse Repeat Pulse Ultra Peak Power 800 W Ultra Peak Freq. 10-990 Ultra Pulse Duration 100 µs- 1700 µs	
6		IPL	Source Flash Lamp Wavelength 550 nm 600 nm - Fluence 2-25 J/cm^2 Power - 230 V AC	
7		Hyfrequator	Frequency 3.5 Mhz Power s140 W	
8		Woods Lamp		

9		Dermascope		
10		OT Table, OT Light, Surgical Instruments, Resuscitation kit		
11		Electric Derma Brader	Output - 40 VA, Speed foot control	
12		Iontophoresis Unit	Hand and Foot Plate	
13		Q Switch Nd : YAG Lager	Wavelength - 1064 / 532 nm Energy - 12.5 J Pulse Duration - 8 ns Spot Size 1-7 mm Electrical Power 220 V	

DEPARTMENT - ORTHOPAEDITRS

S.No.	Item Code No.	Name of Equipment	Specification	Comp./Divt.
1		Battery operated hand drill	with charging station with drill and saw attachment, fully cannulated with reverse and forward operation with lock, autoclavable with maximum speed of 800-1000 rpm with a set of three batteries, 15 saw blades of various sizes	
2		Electric drill system	Foot operated with drill and saw attachment/flexible reamer attachment with flexible reamer set and flexible shaft autoclavable with quick coupling, And reamer heads of all sizes from 8-16 mm at increment of 0.5	
3		Manual Drills	Autoclavable with stainless steel body with key	
4		LED OT lights ceilling mounted	Infrared Remote control, Variable colour Temperature, Digital confrol panel with light rotation of 360 degree with a sterilizaable hndle to focus and position with illumination intensity of approx 2.5 lux	
5		Electronic pneumatic tourniquet	With 5 cuff sizes with extra one set of 5 cuffs and alarm. Electronic Digital Display with 3 hrs Battery Backup	
6		Electric plaster cutter	With oscillating saw with variable speed and all sizes of blades	
7		Watson-jones type traction table	With foot and knee attachmentswith height adjustables	
8		Ceiling suspended laminar air flow	To suit OT size of 625 sq. feet with mini HEPA filters with noise requctrion with ss body PU coated with air conditioning	
		Colour photo copier	As per dgsnd rates and with staking facility	
		Interlocking nail instrument set universal for tibia and femur	Universal jig for tibia and femur, with nail extraction device, drill sleeves, trocar hammer.	
		Glucometre	With 50 memory	
		Digital B.P.instrument set	With 50 memory	

		LED View Box	Large, wall mounted	
		Flexible reamers set with fixed reamm heads from 8-16 mm	Stainless steel with silicon exchange tube box	
		Bipolar Cautery	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. **<u>It should have following Rated Frequency</u>** Monopolar Generatior:> 300 KHz Bipolar Generator : Upto 1000 KHz **<u>Bipolar Cutting should offer following Modes</u>** Pure Blend Cut: Cut with low degree of eschar form Blend Cut : Cut with considerble eschar current Forfex: Mechanical cutting with strong hemostasis **<u>Bipolar Coagulation should offer following Modes</u>** 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 **<u>It should have</u>** LED Display for monopolar and bipolar cut and	

			coagulation	
			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	
		C-Arm Image intensifer	1/A mobile C-Arm with 9 tube inches High Frequency generator with rotating anode tube with 17 inches Dual TFT Monitor B/W Display along with the trolley 2/It should have vertical and horizontal hold with 180 rotation on monitor with all standard displacements of control unit with foot lock with built-in 5 KV Auto stabilizer with printing facility with printer. 3/ Fluor mA from 0.5 - 1 mA contious variable 4/ Unit should have control panel with KV selection from 40 to 120 KV with LCD Display and Digital display of KV & FLR time with feather touch control. Should have 5 minute timer with Buzzer 5/ Unit should be operable on 230 V with 2 monitor system for LIH, Live and storage image. It should have permanent image storage capacity of aprrox. 10,000 image and 50 temporary image storage for quick review.	

			6/ Monitor should be operable on windows and have CD writer facility. 7/Unit should have CE, AERB and/ISO certification,	
		Short Wave Diathermy Unit	Output 500 watts, floor model, LED display timer with audible alarms with one pair of Both disc and rubber electrode, neon tester lamb.	
		Intermittent cervical and lumber Traction Unit	LED Display. timer with alarm, & patient switch Traction table - MS made frame, 2 section bed well cushioned, 1 section free rolling.	
		Ultrasound therapy Unit (Dual band)	Microprocessor based, output 1 mhz & 3 Mhz. Mode pulse & continuous, LCD Display,	

Name of Department - E.N.T.

S.No.	Item Code No.	Name of Equipment	Specification	Comp./Divt.
1		Bipolar Radio-Frequency Ablation system for ENT Treatment with auto stop function	- Should be based on the principle of Radiofrequency induced Thermotherapy for minimal invasive surgeries. - Should be interstitial form of terapy which can be performed under local anaeshtesia. Surface of the organ should remain intact. - Current should be induced through bipolar applicatiors. Should not need any neutral elecctrodes. -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 singal. -Should have automated power contral to exclude overdosing. -Should have footswitch control. -Should be supplied with bipolar cutting system for the consevative removal of tissue and with special surgical forceps, a cutting electrode grip, the necessary connection cables and special cutting electrodes for combined treatment of sleeprelated breathing disordes. -Should be 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 Hyperplasia of the nasal concha, Habitual snoring (combined treatment) and Mild obstructive sleep apnea (combined treatment)with conical tip & 1.1mm dia. -Brobes 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. -	

Department - Anatomy

S.No.	Item Code No.	Name of Equipment	Specification	Comp./Divt.
01	**ANT-01**	**Mortuary Cooler**	The Chamber for two and four dead bodied, temperature less than 5, insulation pillycurethine foam , rooftop refrigeration unit with air cooler condenser, electric supply 230+ 10 volts-50 hz. A vapour proff incandescent lamp, digital type temperature indicator cum controller, rust proof body, door stainless steel, stainless still tray in single pieces two and four respectably for both units with tubular edge and handles, the assembly should have three pieces carriage assembly which includes stationary frame and lower and upper carriage and should ride on wheels. Minimum 20 installations in india and three in bhopal service center in bhopal, three years warranty and service contract. Accessories- Automatic voltage stabilizer 3KBA	
02	**ANT-02**	CADAVERIC INJECTION MACHINE (EMBALING MACHINE)	For injecting formaldehyde solutions in cadavers and much higher speed than normal gravity process. Unit to be covered and mounted on a portable trollery having four castor wheel for easy movement. Unit consisting of one air compressor filled with half HP motor which is connected with stainless steel tank of 10 liters capacity ment for storage and injecting the solution. Tank to be fitted with safety valve, pressure gauge and rubber tubing having provision for injection. Supplied with complete electric cord plug suitable to work 220 volts 50 hz AC supply.	
03	**ANT-03**	DIGITAL VIDEO IMAGING	Color corrected with din plan optics. Resolution more than 400000 pixels high resolution chip, RCA, S-Video, USG 2.0 output, high resolution built kin digital camera to produce brilliant	

		SYSTEM	image. Video and digital signals can be obtained at the microscope base and displayed on TV set and PC monitor at same time by high resolution CCP chip. Built in Mock / digit converter. 40x to 1000x standard magnification range optionally up to 2000x with additional eye piece. A versatile software for image depturing, processing and editing.	
04	**ANT-04**	Distllation Plant 01 gallon menerty per hours		
05	**ANT-05**	Embrylology models	Developing Heart	
			Dev. of Heart in 30 days embryo	
			Dev. of atria and Ventricles- At 4 weeks	
			Dev. Of atria and Ventricles- At 5 weeks	
			Dev. Of atria and Ventricles- At 8 weeks	
			Undifferentiated Genital System	
			Male UG system in 12 week embryo	
			Female UG System in 12 week embryo	
		Medium skeleton with nerves and blood vessels	This model depicts the position. Course and distribution of main arteries and peripheral nerves of the human body.	
		Life size skeleton 170 cm tall	Features nerve branches,Vertebral arteries and herniated lumber disc. Skull includes movable jaw, cut calvarium.	
		Life size skeleton with stand	Durable parts Stand with wheels	
		Adult male pelvis with stand	Comparison between two sexes	
		Adult female pelvis with stand	Comparison between two sexes	
		Female pelvic muscles and organs	To get an integral knowledge of various important structures	
		Magnified human larynx model	Demonstrate movements of epiglattis and cartilages in the voice box	
		Jumbo heart model	To understand external and internal features of heart and its relation with the large blood vessels	
		New style giant ear model	Shows the three main structural parts of the hearing organ and the posistion of equilibrium organ of the body	
		Enlarged skin model	Showing structure and appendages of skin	
		Giant eye model	The different part of the eye ball model are detachable to show its structures	
		Magnified human pulmonary Alveoli model	This model shows relation and branches of principal bronchus	
		Model of transparent lung	Shows bronco pulmonary segments and their arrangements	

		segment		
		Larynx Heart and Lung model	Separating into seven parts. The two lung have removable lobes to show internal structures of heart	
		Model of the anatomical nasal cavity	Removable parts to show external and internal features of human nose	
		Liver model	The complex vessels nwtwork in the open liver are displayed in different color	
		Male urogenital system	To show external and internal futures.	
		Liver pancreas and duodenum mode	Relation an opening of the ducts can be seen	
		Female urogenital system	To show external features	
		Appendix and caecum	The model shows wall of the caecum and appendix Various positions are described	
		Disco torso 15 slices	Horizontally sectioned in to 15 slices showing topographical relations	
		Brain 8 part	DEtailed model divided medially showing external and internal features	
		Brain Ventricles	Shows both side ventricles, the third and fourth ventricle	
		Spinal cord with nerve ending	Showing composition of spinal cord	

Department Microbiology

S.No.	Item Code No.	Name of Equipment	Specification	Comp./Divt.
01	MB-001	**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 Kit 100 HBV real time PCR Kit 100 HCV real time PCR Kit 100 MTB real time PCR Kit	
02	MB-002	**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 service providers that perform their own design activities. Comprehensive training for lab staff and supppport services till familiarity with the system. Three years warranty, 5 yrs comprehensive AMC should be abailable with service centers in close proximity.	
03	**MB-003**	**Fluorescent Microscope**	Trinocular head 6 positions nose piece. Objectives- 5x, 10x, 40x, 100x(A Plan achromatic) Halogen filament lamp 12 V, 35 W for fluorescence 50 W Binocular Phototube Conversion filters-blue & green, CB-12 d32x2. Condenser 0.9/1.25H Phase stop pH 1,2, 3 Pin hole diaphragm Eye piece 2 pairs WF 10x & WF 15x Eye piece eye cup Dust over Ergonomic design to provide user comfort and avoid eye fatigue. Comfortable knee rest position. Power slot G2 With computers compatible accessories. Mega fixed CCD, 3x zoom,Digital zoom LCD & optical view finder USB interface for Windows Remote control via USB or control unit Line image via USB or video out. 4	
04	**MB-004**	**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 eyepiecess should be aplanatic and have a minimum field number of 18. Diopter adjustment must be present. **Objective** - Three objectives 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.	
05	**MB-005**	**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	**MB-006**	**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	

Dean
Gandhi Medical College
Bhopal

NAME OF DEPARTMENT : PATHOLOGY

S.No.	Item Code	Name of Equipment / Instrument	Specification
1.	PAT-01	**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 4000 rpm & RCF 2750 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.
2.	PAT-02	**Laboratory Centrifuge (Research)**	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 4500 rpm & RCF 3485 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. 7 segment LED display of speed 8. 220-240 volts 50 Hz
3.	PAT-03	**Centrifuge for Micro Hematocrit**	1. Centrifuge for micro hemtaocrit. 2. Table top model with rotor head to accomdate 24 capillaries with reading device. 3. Digital speed indicator with 15 min count down timer. 4. Speed 12000 rpm & RCF 15300 with rotor head. 5. Switch 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. 7 segment LED display of speed 10. Automatic door opening through gas hinges 11. 220-240 volts 50 Hz

4.	PAT-04	**Deep Freezer (-20^{0}C) Horizontal**	1. Capacity 170 litres & required temperature lowest 20^{0}C 2. Outer body made of powder coated 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 indictor cum. 6. Unit to be supplied with voltage stabilizer. 7. Dimensions outer : mm 1150(W)x500(D)x910(H) inner. 600(W)x400(D)x700(H)
5.	PAT -05	**Blood bank Centrifuge for component separation**	1. Unit suitable for high load blood processing centre. 2. Required swing out rotor head to accomodate 4 double bags or 6 single bags 3. Should have advance microprocessor control. 4. Inbuilt pre cooling programme self diagnosis of error option to set and indicate RCF 5. Should have features of acceleration and

			declaration profile. 6. Imbalance detector & cut off in case of uneven load. 7. Brushless induction motor with frequency motor. 8. Temper proof password protection safely lid. 9. Simultaneous display of set and run parameters. 10. Max speed 4500 rpm & max RCF 60000.0
6.	PAT-06	**Rotary Microtome (Spencer type)**	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 60 um increment 1 um to 10 um. 4. Horizontal advance of specimen 30 mm and vertical stroke 60 mm 5. Universal knife holder base for different knives along with disposable knife ho0lder with safety finger projection guard. 6. Maximum specimen size 50x60x40 mm.

7.	PAT-07	**Cytospin for Cytology**	1. Suitable for cytology preparations. 2. Swing out rotors with adaptor all tube sizes down to 1.5 to 2 mm. 3. Maximum speed 6000 RPM with RCF 4186 g. 4. Capacity 12x15 mm.
8.	PAT-08	**Automatic Tissue processor**	1. Fully automatic tissue processor with capacity of 200 cassettes per run. 2. LCD display with 4 lines, digital programming upto 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 1000 sensors). With facility of Vacuum operation and protection hood.
9.	PAT-09	**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.
10.	PAT-10	**Fully Motorized programmable Rotary Microtome**	1. Fully automatic microtome for variable specimen retraction and sectioning. 2. Two separate programmes for timing and sectioning. 3. Speed control through cutting window. 4. Section thickness setting from 1 um to 99um in 1 um increments. 5. Section thickness from 0.5um to 99um. 6. Three sectioning modes one manual and two motorized (continuous and separate) 7. Section thickness from 0.5um to 99um. 8. Three sectioning modes one manual and two

			manual motorized (continuous and separate)
11.	PAT-11	**Slide warming table**	1. Rectangular histology slide warming table. 2. With jet black top surface minimum 300x200 mm 3. Programmed and set temperature digital display. 4. Set values memory.
12.	PAT-12	**Knife sharpener Automatic**	1. Automatic knife sharpener A.O. spencer type for manual knives. 2. To permit perfect cutting edge at an equal bevel angle on both sides. 3. Constant rotation of ground glass plate. 4. Can hold knife up to 300 mm and should have metal scale 0-25 with 10 divisions. 5. Unit should be powder coated.
13.	PAT-13	**Paraffin dispensers digital**	1. Specially designed equipment to dispense wax for embedding. 2. Capacity 3 litres /5 litres. 3. Thermostatically controlled tem. with Tap control at 56^0.
14.	PAT-14	**Tissue flotation bath**	1. Tissue flotation bath for histopathology.

			2. Micro processor based digital temperature control range ambient to 70+1. 3. Inner chamber rectangular, seamless (die pressed) stainless steel with high grade insulation. 4. Size minimum 240 (L) x 150(W) x 50(D) mm.
15	PAT-15	**Table top Blood cell counter (Clay adam type)**	1. 5 keys for simple manual different count with computation including percentage. 2. Each unit counts 999 and last unit totalize different cells with bell at 100.
16	PAT-16	**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.
17	PAT-17	**Autoamated immunoassay analyzer**	1. Bench top analyzer with built in thermal printer with facility for external printer. 2. Based on enzyme linked fluoroscent 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 upto expiry date of the kit. 10. The test menu should be more than 80 parameters. 11. No co9nsumables required for daily start up shut downs and periodic maintenance. 12. The test device should be bar coded.
18	PAT-18	**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. Upto 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 upto 10000. 14. 31 positions for reagents & 22 positions for

			calibrations 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 bicrhomaticad monochromatic reading options. 19. At least 8 independent incubators with temp options from RT to 47^0C. 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. 25 Should enclose list of installations in India. 26. 1 year warranty and 5 years spare parts availability.

			27. The company quoted should be direct importer of the system.
19.	PAT-19	**Thalassemia and Hemoglobinopathy testing / screening equipment**	1. The system should be an automated integrated system, dedicated to HbA1c, Thalasseaemia and Hemoglobinopathy testing and screening based on HPLC technology. 2. The system should be able to screen and quantitative hemoglobins, Hb, A2, HbA, Hb, F and Hb, Al, Hb, S, Hb, C, Hb, Q India and other rare abnormal hemoglobin. 3. Complete ready to use kit should be provided with buffers, columns, primers, calibrators and sample vials. 4. It should at least have a through out of <7 minutes per sample. 5. The system should have in kit external standards for instrument calibration ensuring accurate quantitation of results. 6. The system should contain low pulsation dual piston pump with programmable solvent deliver system.

			7. The system should have integrated 1/4 LCD touch screen. 8. The system should have built in Graphic thermal paper printer, 112 mm, 4.4' wide. 9. The system should have a bi directional LIS. 10. The system should have an audible alarm system for low buffer in the mobile phase reservoirs, low level value for cartridge injection and overflow for the waste tank, as well as built in alarm for calibration failure. 11. The system should be capable of positive sample identification using a Barcode reader. 12. The system should have the facility of primary tube sampling and direct dilution of the samples without manual intervention. 13. It should have an inbuilt system check facility which checks all the system parameters (e.g. cartridge, buffer, reagent, waste etc.) are ready before the sample analysis. 14. The system should have a dual program mode to perform either Hba1c or Hba2/Hb

			F/Hba 1 c without changing any reagents or columns. 15. Assay time should be maximum 3 minutes for HbA1c testing and maximum 7 minutes for A2/F/A1c testing. 16. It should be able to print a hard copy report filing identification and information on the subtype and quantity for haemoglobin detected. It should the facility to view current and stored chromatograms & should enable storage of chromatograms. 17. It should have a remote data access feature when connected to LAN or internet. 18. Manual and explanatory supplementary reference reading material on abnormal haemoglobin variants should be provided with reference to the system. 19. Normal and Abnormal controls and quality control should be provided. 20. The system should have a hardware upgrade available for an increase in the sample workload.

			21. Product related technical support, instrument service and maintenance support should be provided. 22. Installations list in India to be enclosed. 23. The instrument should be supplied complete with a starter pack consisting of all reagents and consumable for 400 HbA1c tests or 200 HbA2/F/A1c tests.
20.	PAT-20	**5-Part Haematology Analyser**	1. Fully Automatic and compact haematology analyzer 5 part differentiation of WBC. 2. Open vial sampling mode requiring maximum 2 oul blood. 3. 23+4 parameters including RDW/SD. 4. Through put : at least 60 samples / hour. 5. At least 4 quality control programs and 60 files storage. 6. Storage capacity : 400,000 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 10^9/L RBC : 0-8.00 x 10^{12}/L HGB : 0-250 g/L HCT : 0-67% PLT : 0-1000 13. Reproducibility performance WBC : ≤ 2.0% RBC : ≤ 1.5% HGB : ≤ 1.55% MCV : ≤1.0% PLT : 4.0.% 14. There must be PC operation of the instrument.

21.	PAT-21	**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 (120x132mm) 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 7. Eyepiece lens : 10 x(anti fungus) , factory fitted. 8. Objectives : a) Plan Achromat 4 x b) Plan Achromat 10 x c) Plan Achromat 40 x d) Plan Achromat 100 x 9. Illumination : LED illumination source voltage : 100-240 volts AC
22	PAT-22	**Imported Binocular Research 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 (120x132mm) with specimen holder. 5. Eyepiece tube : Binocular tube (30 degree inclination and 48-75mm IPD) Rotable 360 6. Condenser : Abbe condenser with objective guide marking position. Factory fitted. Numerical aperture : 1.25 7. Eyepiece lens : 10 x (anti fungus), factory fitted. 8. Objectives : a) Plan Achromat 4x b) Plan Achromat 10x c) Plan Achromat 40x d) Plan Achromat 100x 9. Illumination : Halogen 12/20W illumination source. 10. Voltage : 100-240 volts AC
23.	PAT-23	**Research Microscope with Epifluorescnce attachment with**	▪ Colour corrected infinite optical system, Anti fungus.

		microscopic digital camera	▪ Microscope stand with coaxial focusing control knobs upper stage drive stop. ▪ Siedentopf type binocular / trinocular eyepiece tube 30^0 rotatable 360. ▪ Wide field eye piece 10x18 mm with rubber shield (pair) ▪ Quintuple revolving nose piece with click stop. ▪ Objectives : o CCIS plan achromatic PL 4/NA0.13 o CCIS plan achromatic phase Ph 10/NA0.25 o CCIS plan achromatic phase Ph 40/NA0.65 spring loaded. o CCIS plan achromatic Phase Ph 100/NA0.125 spring loaded. ▪ Phase contrast 5 position Turret Condensor for phase 10x40x100xBF&DF ▪ Centering telescope. ▪ Sub stage illuminator 6v/30w helogen lamp power supply 100-240 CE

			▪ Epi fluorscent attachment with filter cassette. ▪ Mercury lamp socket for HBO 100W, starter unit HBO 100W. ▪ Lamp centering tool. ▪ Mercury lamp HG 100W ▪ High resolution Digital camera with 1/2" 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, 34 mm, 35mm) ▪ Image software: instant image capturing real time full screen image, programmed interval capturing video capturing. All measurements in micro, inch, mm, length, angle, etc. ▪ Facility for on line file sending.

			▪ Image assembly at high magnification. ▪ Image capturing at multi focal depths. ▪ Branded PC computer : Pentium 1 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.
24.	PAT-24	**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 27 degrees. Illuminator : Built in Koehler illumination for transmitted. Light 12V100W Halogen bulb (Pre centered). Light intensity adjustment centrally located. so both hand can be used to increase and decrease light preset switch for photography built in filters (LBD-IF, ND6, ND25) Revolving Nosepiece : Interchangable reversed coded

			Quintuple / 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 40x0.75 (spring loaded) WD 0.51 & Plain semi apopchromat 100x0. Observation Tube : Wide field Trinocular head with field no. 22 mm. Stage : Ceramic coated coaxial stage with right hand low drive. Control condenser : Phase contrast / Dark field condenser (N.A. 1.1) Teaching attachment : For 1+4 persons Head with eyepiece 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. ▪ Filters should be Narrow band UV, Blue

			& Green. Digital Camera : Cooled Colour C-Mount CCD Camera having large CCD size of 1/1.8" with 12 bit A/D converter having 3.0 Mpix or more resolutions. Camera should have pixel size of 3.45 um^2. It should have frame rate of 17 frames /second at 2080x1542 resolutions. Exposure time should be 30us 180s. Digital camera should be suitable for bright field & fluoroscene applications. Imaging system : Image analysis software for measurements time. Lapse and the software should be capable to drive. The camera and the microscope parts with latest. Branded Pentium 1 Core Chipset 4 GB Rams 300 GB DVD writer with Graphic card and High. Resolution 19" TFT monitor with keyd board and mouse. ▪ LCD Display for live presentation. ▪ Appropriate table for microscope.
25.	PAT-25	**Vacuum Infiltration tissue Processor**	At least 9 Processing Programme with cleaning programme and warm water flush programme.

			▪ Solution vol. upto 4 litres. ▪ Control panel with easy monitoring & functionality. ▪ Pressure / Selectable. ▪ Vaccum agitation. ▪ Should be supplied complete with all accessories, reagent bottle with attachments. ▪ Water reservoir & carbon filter. ▪ Cassette Basket. ▪ Paraffin container. ▪ Scraper ▪ Aspirated carbon carbidge
26	PAT-25	**ELEVATED GROSS STATION WITH INFRARED CONTROLS**	With Gross Tool system grossing board and instrument for grossing and trimming. Constructed from high quality stainless steel, elevated grossing station, floor model. o Camera mount o Cassette holder o Disposal, 3/4 HP (Factory Mount) and 1 HP (Factory mount)

			○ Dissecting Board ○ Eyewash Assembly ○ Filter Activated carbon and potassium permanganate. ○ 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 QOUTATION FOR: (A) IMPORTED GROSSING TOOLS : Standardized 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) IMPORTED GROSSING BOARD : - Not less then 50x40x2.5 cm size along with grossing forks 1.5x 2x 2.5mm - Cleaning Brush - Easily adjustable wells, calibration of wells position of tissue and desirable thickness.

27	PAT-27	**CRYOSTAT**	Cryo 220V, 50/60 Hz with disinfection system and motorized. - Instrument used to freeze and section tissue specimen. - With all necessary accessories. - Chamber Temperature range - 35^0C to 0^0C - Cryobar temperature - 50^0C minimum (Cryo + Section) Sectioning speed Range o Maximum : 28 Sections per minute. o Minimum : 2 sections per minute. o Specimen Size Round 25, 38 and 55 mm. o Specimen orientation 8^0 to 10^0 (X and Y axis 360^0) (z Axis) o Sectioning range 1 to 99 u in 1 u increments. - Travel Range : o Vertical 63mm o Horizontal 31.75mm
28	PAT-28	**CONTINUOUS RAPID TISSUE PROCESSOR (Microwave Based)**	Upto 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. ○ Maximum : 28 Sections per minute. ○ Minimum : 2 sections per minute. ○ Specimen size round 25, 38 and 55 cm ○ Specimen orientation 8^0 to 10^0 (x and Y axis) 360^0 (z Axis) ○ Sectioning range 1 to 99 u in 1 u increments. ○ Processing time ranging from 60 to 120 min. ○ Maximum : 28 sections per minute. ○ Minimum : 2 section per minute. ○ Specimen size round 25, 38 and 55 mm ○ Specimen orientation 8^0 to 10^0 (x and Y axis) 360^0 (z Axis) ○ Sectioning range 1 to 99 u in 1 u

			increments. Temperature ranges : o Microwave stations $61^0C + 2^0C$ o Vacuum stations $65^0C + 2^0C$ o LCD display with tough screen. - Complete software for manual and auto stats should be able to do standard or extended programs. - Reagents management system with counter for cassette.
29.	PAT-29	**Automatic Micropipettes**	1. With high accuracy & Precision Calibration at $20^0C - 22^0C$ II. Fixed volume : a) 10 ml b) 100 ml - 4 Set c) 1000 ml 2. Delivery volume display in clear digits in read out window. 3. Light weight eugenic design. 4. Insulating jacket with tip ejector. 5. Autoclavable

			6. Mechanically durable & chemically resistant.
30.	PAT-30	**Coagulometer**	1. Semi automated haemostasis analyser a) 4 channel optics. b) Low reagent volume 25 ul to 50 ul assay range 50 -8.000ngm/ml c) Can be used for clotting based chromogenic method. d) PC interface option e) Should be provided with electronic pipette of 25-200ul. f) Open system facility for reagents and automatic INR calculations. g) Machine to be installed by the company personnel, operational with all tests running. h) Starter kits to be provided. i) Training of operators.
31	PAT-31	**Turbidometer**	1. Semi automated analyser with end point, kinetic fix time MSD and absorbance modes. 2. 90 open location for open MSD 3. At least has 6 programmes in MSD 4. Should have automated flagging of outline

			results. 5. Measuring system with cuvette mode. 6. Filter range Biomatic filter, 340, 405, 505, 546, 578, 630 7. Temp - 37^0C with temperature lock. 8. Measuring range : 200 to +2000 O.D.

NAME OF DEPARTMENT : BLOOD BANK

S.No.	Item Code	Name of Equipment / Instrument	Specification
1.	BB-01	**Refrigerator Blood Bank**	1. System required with weekly chart recorder and digital displays. 2. Temp range should have adjustable temperature control range from 1 degree to +8 C, factory present at 4 degree C. 3. Capacity should accommodate 350 or more units blood and storage internal volume should be 700 liters. 4. 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 tempereature uniformity at all shelf level, 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. 5. Internal construction should be made up of high grade stainless steel (min 22 (i) External construction Corrosion resistant sheet at least 1 mm thickness). 6. 5 Internal Temp Control : a) System should have temperature control range from +1 degree C to +8 degree C. b) Temperature should resolution should be better than 0.1 degree C. c) Cooling down time of max of 150 min on half load. 7. External ambient temp should perform in ambient temp up to +43 degree C. 8. Door system should lockable double glass for better safety. 9. 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 changes. c) The system should have key operated set point for

			the added security. 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 have battery backup and connections for remote alarm contacts. 11. Should have adjustment for uneven bases. The adjustment should be easy to use like rotating a screw at the legs in the base. 12. Scratch resistant internal lining of the cabinet (stainless steel or aluminum).
2.	BB-02	**Equipment Specifications for Sterile Connecting Device**	▪ The Sterile Connecting Device should be compatible with all standard tubing for blood bags. ▪ Compatible with all standard tubing for blood bags. ▪ Compatible with all standard tubing for blood bags. ▪ Should be possible to weld external diameter 3.9 to 4.5 mm 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. ▪ Sterile connecting Device - Qty 1 ▪ The cost of Wafers may be ascertained during tendering since it would be a proprietory item and not possible to quantify requirement initially. ▪ The unit shall be capable of operating continuously in ambient temperature of 10-40 deg C and relative humidity of 15-90. ▪ The unit shall be capable of being store continuously in ambient temperature of 0-50 deg C and relative humidity of 15-90. ▪ Shall meet IEC -60601-1-2: 2001 (or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility. ▪ Power Input - 270-MOV/50 Hz AC Single phase or 380-400V AC 50 Hz three phases, fitted with appropriate Indian plugs and sockets.

			▪ Resettable ovcrcurrent breaker shall be fitted for protection. ▪ Voltage corrector / stabiliser of appropriate ratings meeting ISI Specifications. (Input 160.260 V and output 220-240V at 50 Hz). ▪ Should be FDA, CE, LJL or BIS approved product. ▪ Electrical safety conforms to standards for electrical safety IEC-60601/IS-13450. ▪ Manufacturer should have ISO certification for quality standards. ▪ User manual in English. ▪ Service manual in English. ▪ List of important spare parts and accessories with their part numbers and cost. ▪ Certificate of calibration and inspection from factory. ▪ Log book with instruction or daily, weekly, monthly and quarterly maintenance checklist. ▪ The job description of the hospital technician and company service engineer should be

			clearly specified. ▪ List of equipment available for providing calibration and routine maintenance documentation in service / technical manual.
3.	BB-03	**ID-GEL MICRO TYPING SYSTEM**	▪ System should be based on US-FDA approved gel particles. ▪ System should be based on 'no washing antiglobulin test principle'. ▪ Company should have quality control reagent like cross matching, grouping and antibody screening. ▪ There should be provision to perform following procedures: o Grouping o Cross Matching o Do test using IC method o Blood grouping including partial D detection. o Rh confirmation o Syphilis Antibody test. o Single Antigen test cards and antisera like Rh system (C.e.F.e.e.C) Kell, Duffy, Levis,

			Lutheran MNS etc. ○ Special Antigen test cards for DCT positive patients that can detect IgG, IgM, IGa, C3d, C3e etc. ○ Special reagent for acid caution method. ▪ Add pack insert of all the products mentioned in 3.4. ▪ There shall be special blood grouping card for donors and patients to detect partial RhD i.e. DVI variant to reduce risk of Allo immunization. ▪ There shall be commercial red cell panel i.e. 2 and 3 cell panel for antibody screening and 11 cell panel for antibody identification. Further, should have pooled 'O' cell with phenotype for donor screening as per NACO guideline. ▪ Body should be non metallic and non corrosive plastic to avoid corrosion and electrical shock. ▪ Should have computer based automated data recording system with her code security. ▪ Centrifuge and incubator should have a

			Plexiglas top for transparent viewing of centrifugation cycle in centrifugal and incubation cards inculcator. ▪ Centnfuge should provide 85g centrifugel force during centrifugation.
4.	BB-04	**ELISA READER WITH PRINTER**	Technical Specifications 1.1 ELISA reader complete with Printer is reacquired. 1.2 Should have 8-12 measuring channel & reference channel. 1.3 Should have wave length range of 340-750 nm 6 filler 340, 405, 450, 492, 540, 620nm with provision for filling any additional fillers. 1.4 Should have in absorption range of 0-4.000 A 1.5 Should have 4 resolution of 0.001 A 1.6 Should read with in 0-8 seconds. 1.7 The control panel should have soft colored touch screen display, capable of showing graph etc. 1.8 Should have external & Internal programmable time & speed shaking. 1.9 Should be able to read all types of platese. 1.10. Should have a single halogen lamp with save

			features as light source. 1.11 Should have user defined programmes 30 or more. 1.12 RS 232/USB output for printer, P'C connectivity and Data acquisition should be there. 1.13 Should have data memory of 300 plates. 1.14 Should have external printer, capable of printing complete results & graphs etc. from Elisa system. 1.15 Accessories , Spare and consumables : 1. Halogen 1 amps : 2 2. Thermal print paper : 10 Rolls / Fold 3. Dust Cover - 01 4. Set of pipettes consisting of single channel variable volume color prpetter 0.5-10 ul, 40-200 ul, 200-1000 ul. 5. 8 channel variable volume color multi channel pipettes 5-50 ul and 50-300 ul. 2. Environmental factors : 2.1 The unit shall be capable of being stored continuously in ambient temperature of 0-50 deg C and relative humidity of 15-90%.

			2.2 The unit shall be capable of operating continuously in ambient temperature or 10-40 deg C and relative humidity of 15-90%. 3. Power Supply. 3.1 Power input to be 220-240VAC, 50 Hz fitted with Indian plug. 3.2 Resettable over current breaker shall be fitted for protection. 3.3 Voltage corrector / stabilizer of appropriate ratings meeting ISI Specifications (Input 160-260 V and output 220-240V and 50 Hz) 3.4 Suitable UPS with maintenance free batteries for minimum one hour back up should be supplied with the system. 4. Standards and Safety: 4.1 Comprehensive training for lab staff and support services till familarity with the system. 4.2 Comprehensive warranty for 3 years. 4.3 Should he complaint to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001.

			Applicable to manufactures and service providers their perform their own design activities. 4.4 Should be FDA/VCE/UL approved product. 5. Documentation : 5.1 User/ Technical /Maintenance manuals to be supplied in English. 5.2 Certificate of calibration and inspection from factory. 5.3 List of equipment available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service / technical manual. 5.4 List of important spare parts and accessories with their part number and costing. 5.5 Log hook with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should he clearly spelt out.
5.	BB-05	**AUTOMATIC MICRO PLATE WASHE**	2.1 Fully automate programmable micro plate washers with 8/12 manifold.

			2.2 Then micro plate washer should offer the possibility of flexible programming of the desired washing procedures. It should have 1-4 liquid channels. 2.3 It should be capable of storing up to 75 user definer washing procedures. 2.4 The dispensing volume / well should be 50-3000 ul. 2.5 Plate soaking be programmable at any point of the washing procedure. 2.6 Should have soak time of 1-999 sec. 2.7 Performance sequence should be either on whole plate "Plated Mode" or strip by strip "Strip mode". 2.8 It should offer the possibility to present physical parameters & well shape (round or Hal bottom) of the user micro plate (upto 10) & store this information under freely definable names. 2.9 Application aspiration should be performed at the edge of the well altering from one side to the other or in the centre when using round bottom plates. 2.10 Residual volume /well should be less than 2 ul.

			2.11 The desired number of cycle as well as the interval lime between the steps should be freely definable. 2.12 Necessary sequence should be defined as a combination of single steps, which are freely adjustable be selling the corresponding parameter. 2.13 The result of the washing procedure may be intensified by an optional wash cycle limited to the bottom area (bottom wash) 2.14 Aspiration should prevent an overflow of the well contents. 2.15 A variety of pre programing procedures should over majority of standards application. 2.16. This should be able to be used as -COOMBS WASHER with vertical and horizontal movements performed with 0.1 mm steps. 3. System Configuration Accessories, Spares and Consumables: 3.1 System as specified : 4. Environment factors : 4.1 The unit shall be capable of being stored

			continuously in ambient temperature of 0-50 deg C and relative humidity of 15-90%. 4.2 The unit shall be capable of operating continuously in ambient temperature of 10-40 deg C and relative humidity of 15-90%. 5. Power Supply : 5.1 Power input to be 220-240 VAC 5()1 Hz fitted with Indian plug. 5.2 Resettable over current breaker shall be fitted for protection. 5.3 Voltage corrector / stabilizer of appropriate ratings meeting ISI Specifications (Input 160-260 V and output 220-240 V and 50 Hz) 5.4 Suitable UPS with maintenance free batteries for minimum one hour back up should be supplied with the system. 6. Standard and Safety : 6.1 Should be FDA/CE/UL approved product. 6.2 Comprehensive warranty for 2 years. 6.3 Comprehensive training for lab staff support services till familiarity with the system.

			6.4 Electrical safety conforms to standards for electrical safely IEC-60601 / IS-13450. Documentation : 7.1 Certificate of calibration and inspection from factory. 7.2 List of equipments available for providing calibration and routine. Preventive maintenance support as per manufacturer documentation in service / technical manual. 7.3 User / Technical / Maintenance manual to be supplied in English. 7.4 List of important spare parts and accessories with their part number and costing.
6.	BB-06	**Blood Cell Washing System**	1. Technical Specifications 1.1 It should be made of stable Roburt. All Steel Cabinet 1.1 Max. rpm: 3.000 or more. 1.3 Max. KCT: K gm or more 1.4 Max. Volume : 12 place stainless steel rotor for 12 mm X 75 min or 10 mm x 75 nun 1.5 Drive unit should be Three speed brushless

			induction motor with sealed, Lubricated bearings. 1.6 Should have sensor touch control billions with digital LED display. 1.7 Should have safety indication of disorders by self diagnosis program. 1.8 Should display the number of wash cycles and time selected Saline level Ltd latch and have alarm at end of run. 1.9 Indication of digital selectable from 1 to 4 wash cycles. 1.10 All consumables required for installation and standardization of system to be given free of cost. 2. Environmental factors : 2.1 The unit shall be capable of being stored continuously in ambient temperature of 0-50 deg C and relative humidity of 15-90%. 2.2 The unit shall be capable of operating continuously in ambient temperature of 10-40 deg C and relative humidity of 15-90%. 3. Power supply : 3.1 Power input to be 220-240 VAC, 50 Hz fitted

			with Indian plug. 3.2 Resettable over current breaker shall be fitted for protection. 3.3 Voltage corrector / stabilizer of appropriate ratings meeting ISI specifications (Input 160-240 V and Output 220-240V and 50 Hz). 3.4 Suitable UPS with maintenance free batteries for minimum one hour back up should he supplied with the system. 4. Standard and Safety : 4.1 The automated cell cashing system should ensure precise cell washing in compliance with AABB guidelines. 4.2 Should be FDA/VCE/UL approved product. 4.3 Electrical safety conforms to standards for electrical safely IEC-60601/IS-13450. 4.4 Comprehensive warranty for 3 years. 4.5 Manufacture / Supplier should have ISO certification for quality standards. 4.6 Comprehensive training for lab staff and support services till familiarity with the system.

			5 Documentation : 5.1 Certificate of calibration and inspection from factory. 5.2 List of equipment available for providing calibration and routine preventive maintenance support as per manutaeliror documentation in service / Technical manual. 5.3 User / Technical / Maintenance manual to be supplied in English. 5.4 List of important spare parts and accessories with their part number and costing. 5.5 Log hook with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should he clearly spelt out.
7.	BB-07	**Sealer, Stripper and Cutter for Blood bag tubing**	▪ For sealing and cutting the blood bag tubings. ▪ Each sealer, stripper and cutter should be supplied with 50000.
8.	BB-08	**VDRL Shaker (Rotator)**	Platform size 300x300 mm spring holder which can accommodate concave slider etc.
9.	BB-09	**Coagulometer,**	1. 16 incubation positions for sample (4 cells x 4

		Semi Automated	columns). 2. 2 measurement channels 3. 2-4 positions for reagents (one with magnetic stirrer) and 2 pipette. 4. Four independent built in timers for incubation 5. Measurement possible in plasma. 6. Automatic pipette (Electronically connected or manual start up) 7. Backlight LCD display, 4 lines of 40 characters with built in printer 8. Results in seconds and in various units (INR, Ratio, Gm/L mg/ds, IC/ml) 9. Rs 232 interface. 10. Incubation and measurement wells at 37^0C +/- 0.5^0C 11. Tests : PT, PTT, TT, FIB (Claus and PT derived), Factor II, V, VII, VIII, IX, X, XI, XII Flctcher, VT (Venom time), APCR, AT III (clot) Protein C (clot), Protein S (clot), Heparin, STAT (PT/PTT).
10	BB-10	**Water Bath**	1. Small (app dimensions 40-45 x 35-10 x 20-25 cms)

			light stainless steel body. 2. Micro processor controlled programmable digital display for temperature etc. 3. Temp. Range 37^0C to 56^0C + 0.5^0C 4. Should have a stirrer for circulation. 5. Bath capacity 8-10 liters.
11	BB-11	**Digital Analytical Balance (Single Pan)**	▪ Capacity : 200 grams. ▪ Readability : 0.01 grams. ▪ Linearly : Plus Mnus 0.002 grams ▪ Reproducibility : Plus Minus 0.001 grams ▪ Dimension : To be declared ▪ Stainless steel path ▪ Percentage weighing counting tar (0-200 grams) auto calibration with built in masses. ▪ 220/240 volts, 59 cycles, single phase. ▪ The balance should be supplied with graft shield. The equipment should be suitable for 0 to 40^0C at 95% ambient condition. ▪ Complete technical specification, illustrative technical literature / leaflet shall be enclosed along with the offer indicating the model

			quoted. ▪ Complete and satisfactory type test certificate as per T/E specification shall be submitted at the time of final inspection.
12.	BB-12	**Refrigerated Water Bath (Cryobath)**	▪ 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 liters. ▪ Storage capacity : Holds upto minimum 5 stainless steel racks. ▪ Overall interior dimensions : Should be indicated by the bidder. ▪ Operating temperature : $+4^0$C control sensitivity plus minus 0.2^0C. ▪ Uniformity plus minus 0.2^0C ambient temperature may be as high as 450^0C. ▪ The equipment should be able to thaw 15 plasma units in about 90 minutes. The

			equipments hold have: (a) Stainless steel filter screen for protecting pump in the take from debris such as levels etc. (b) Stainless steel tank of 22 gauge designed with curved corners for easy cleaning. c) Stainless steel lid at least 20 gauge. d) Out side mild steel sheet of 18 gauge. ▪ The following accessories should be pat of configuration. (i) Compression rack holder. (ii) Frozen plasma rack holder. (iii) Thermometer for visual verification of water temperature. ▪ 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.
13.		**Di-Electric tube sealer**	▪ It should be less than 3 kgs with carry bag. ▪ The sealing should be 750 per hour / 1500 sealing per charged battery.

			▪ Rechargeable batteries with a back up of minimum 6 hours. ▪ Automatic detection of the tube by pressing of a lever which activates sensor. ▪ Minimum sealing time (<2sec). ▪ Detection of wet tube, leakage and sealing detect. Alarm in case of sealed not safe and completed. ▪ Compatible with the tubes of various manufactures of blood bag. ▪ Should seals 3.0 to 5 mm tubes with wall thickness of 0.75 mm. ▪ Protection against electric shock.

NAME OF DEPARTMENT : PSM

<table>
<tr><th>S.No.</th><th>Item Code</th><th>Name of Equipment</th><th>Specification</th></tr>
<tr><td>1.</td><td>PSM-01</td><td>Extraction apparatus fat complete</td><td>Fat extractor operates on 115 volts. 50/60 Hz (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.
4. Pressure relief values for each condenser.</td></tr>
<tr><td>2.</td><td>PSM-02</td><td>Filter paste chamber land complete set</td><td>-</td></tr>
<tr><td>3.</td><td>PSM-03</td><td>Filter burke felt</td><td>SS-4 stainless produces 24 galloons per day.</td></tr>
<tr><td>4.</td><td>PSM-04</td><td>Hydro meter spirit</td><td>5 Let swing top seal.</td></tr>
<tr><td>5.</td><td>PSM-05</td><td>Hydrometer milks</td><td>
<table>
<tr><th>Hyudro meters 1 designation</th><th>Range g/ ml</th><th>Sub division</th><th>Length (mm)</th></tr>
<tr><td>No. 1</td><td>1.025 to 1.035</td><td>0.002</td><td>240</td></tr>
<tr><td>No. 2</td><td>.035</td><td>0.0005</td><td>215</td></tr>
<tr><td>No. 1A</td><td>1.015 to 1.025</td><td>0.002</td><td>240</td></tr>
</table>
</td></tr>
<tr><td>6.</td><td>PSM-06</td><td>Hydrometers wet & dry Bulb 1</td><td>-</td></tr>
</table>

7.	PSM-07	**Balance analytical 200 gm**	200 gm
8.	PSM-08	**Balance for weighing food**	Capacity 2 kg
9.	PSM-09	**Baby weighing**	-
10.	PSM-10	**Herpenders calipers with for skin fold thickness**	-
11.	PSM-11	**Height measuring stand**	-
12.	PSM-12	**Refrigerator 9 cu ft.**	9 cu ft 1
13.	PSM-13	**Ice lined refrigerator (ILR)**	140 ltr.
14.	PSM-14	**Dissecting microscope**	-
15	PSM-15	**Microscope 0-1 immersion**	HB Laboratory Microscope Magnification - 100 x 1000

NAME OF DEPARTMENT : PEDIATRIC SURGERY

S.No.	Item Code	Name of Equipment	Specification
1.	PS-01	**Pediatric Fibreoptic Sigmoid scope with working snare biopsy forceps etc.**	Paediatric sigmoidoscope (colonoscope) is needed as per MCl norm. This equipment is needed for diagnostic and therapeutic use for lower gastrointestinal bleeding in children.
2.	PS-02	**Ceiling Operation Theatre Light**	Shadow less ceiling OT lights are needed for up gradation of operation theatre in Paed Surgery. This shadow less OT light include, Double, Dome 50-55 cm diameter with four reflectors, halogen bulb etc.
3.	PS-03	**SPO2 Monitors**	This is needed for monitoring of vital during surgery and in post operative periods in children.
4.	PS-04	**Pediatric CO2 insufflators with accessories for laparoscopy**	Pediatric CO2 insufflators is needed for use during laparoscopic procedures in children. This equipment must include automatic pressure & flow control high degree of safety control functional and user friendly gas worming, multiple display etc.
5.	PS-05	**Operation Tables**	Must be made from acid proof, stainless steel easy to clean and immune to disinfection agents.

			Needed for pediatric surgery operation theatre.
6.	PS-06	**Anesthesia work station (Anesthesia machine)**	Needed for up gradation of the pediatric surgery operation theatre.
7.	PS-07	**Syringe infusion pumps**	This is needed for I/V fluids and drugs administration for neonates.
8.	PS-08	**Standard infusion pumps**	This is needed for I/V fluids and drugs administration for children.
9.	PS-09	**Miscellaneous Operating Instruments (forceps, scissors etc.)**	Needed for routing use in pediatric surgery OT. All operating instruments must be of standard company.
10.	PS-10	**Radiant warmers**	Needed for pediatric surgery NICU and for use din infants.
11.	PS-11	**CO2 cylinders for laparoscopy**	CO2 is needed during laparoscopic procedures.

NAME OF DEPARTMENT : PSYCHIATRY

S.No.	Item Code	Name of Equipment	Specification
1.	PSY-01	**Alcohol Breath Analyser**	Alcohol breath analyser 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 **Breathlayer specifications :** Should display the breadth alcohol concentration as a 3 digit read out 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 / rest with rest button Automatic switch off after 30 sec. Recycle time 10 seconds. **Mouth piece 5 x washable mouth piece** Sensor semi conductor oxide sensor Continuous using time

			Without battery Over 200 test Replacement Power supply - DC Dimensions (mm) should be compact.
2.	PSY-02	**Biofeedback machine**	**Space for operation** Cabin beside the HOD chambers. **Necessary technical staff** Machine will be operated by psychologist and psychiatrists **Specifications:** Biofeedback apparatus should be able to record following parameters: Pulse GSR Temperature EEG EMG **Parameters relax - 1 relax II** Biofeedback instruments should be compact i size and through its ergonomically designed

			front panel facilitates ease of operation. Each biofeedback instrument converts patient physiological changes (GSR, Oulse 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-1** GSR Input : Through two silver - chloride electrodes, one connected to the sweat glands and the other to any inactivate 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.
3.	PSY-03	**EEG Machine**	**Space for Operation** Cabin beside the HOD chambers. **Necessary technical staff:** The post of EEG technician to be created and technician to be appointed. However, machine can be installed in the department and the technician services can be outsourced. **Specification :** ▪ Windows based 32 channel digital EEG with Pentium PC and inkjet Printer features are: o 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 to 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 archieve 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 optional). ▪ 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 window millennium. ▪ Fully compatible with celero 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 independence > 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 uv / mm ▪ Lf (Hz) 0.1, 0.3, 0.5, 1.0, 3.0, 5.0 Hz and

			other 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 patients leads, EEG, Jelly, PC cable etc.
4.	PSY-04	**ECT Machine**	**Space for operation** 1. Room beside the medicine seminar hall with allotted by superintendent Hamidia Hospital. However it has not been handed over to department of psychiatry because in this room tea canteen is running. **Necessary technical staff:** ECT Machine will be operated by psychiatrists. **Specifications:** Constant current brief ECT machine with EEG and ECG recorder full microcomputer based. Other ECT specification: Three modes of operation provides wide choice: - Mode 1: Brief pulse PLS (frequency, pulse width duration

			current selectable energy J calculated by micro computers). Mode 2 : Brief PLS 2 (Current, energy, selectable frequency pulse width. Duration calculated by the micro computer) Mode 3 : Sine wave gives a controlled current sine wave. Current : Constant current ECT. The current is continuous adjustable from 500 mA to 800 mA in steps mA. Frequency range: 30 to 90 Hz in 7 steps of 10 Hz each. Pulse width : Selectable from 0.8 mS to 2 mS in 7 steps of mS each. Duration : Selectable from 0.5 mS to 2 mS in 7 steps of mS each. ▪ The energy that would be delivered to a standard impedance of 200 ohm by the

			selected parameter set is calculated dynamically. ▪ The actual energy delivered is displayed on screen according to the actual have impedance. ▪ The patient head impedance continuously measured dynamically during treatment of the on set of every pulse. ▪ At any time if the head impedance is outside the permissible limit the shock prematurely terminated and display show ERR. ▪ Provision for automatic stop of the operation in case of any deviation from the present limit or malfunctioning of any part. ▪ Isolation provided to separates both the operator and the patient from the mal supply. Any accidental mishandling of the electrodes can not result in unwarranted mains supply sock under any condition.

			▪ All the function keys are sequentially locked with the Reset key. the key needs to be depressed prior to depressing a function key. Recorder selection: ▪ Chat speed - 10 mm and 25 mm /sec. ▪ Paper width : 105 mm. ▪ Recording system : ink writer ▪ Recording pen - Metallic light weight recording pen with 120 length. Marker - Gives continuous mark as 1 Sec. intervals. **EEG Section :** ▪ Sensitivity - Selectable from 20, 100, 200, 500 uv per chan. ▪ Frequency response : 2-60 Hz with 50 line filter. ▪ CMRR : > 80 db. ▪ Calibration voltage : 50 uv. **ECG section :** ▪ Sensitivity - Selectable from 0.5, 1 & 2

			mv/cm. ▪ Calibration voltage 1 mv. ▪ Frequency response : 2-60 Hz with 50 Hz line filter. CMRR : > 80 db
5.	PSY-05	**Lithium analyser**	Lithium analyser can be use to measure serum lithium. 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.
6.	PSY-06	**Psychometric tools**	Space for operation : Available **Necessary technical staff:** The post of clical psychologist will be created and to be filled. At present psychometric tests are done by Rahul Sharma (Clinical Psychologist)

			who is appointed under District Mental Health program, Sehore. 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. Segulin from board with manual. **C. Cognitive Test:** 01. AIIMS Battery of Neuro cognitive assessment with manual.

NAME OF DEPARTMENT : BURN AND PLASTIC SURGERY

S.No.	Item Code	Name of Equipment / Instrument	Specification
1.		**Electic Dermatome (S/S Stainlesst steel, Tunguston Coated Rust Resistant)**	1. The Dermatome should be able to out grafts or various widths. Should be provided with variable Gparts to adjust the width of the graft to 2". 2" or 4" should not need any earner to lift the graft from the donor (slite. The cut graft should automatically fold into the pock jet of the dermatome. The graft should be served by simplify lifting of the dematome 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 thousands of an inph. The Dermatome unit should be supplied complete with motor unit i the handle set of guard, calibration guide, power plug cord, screw driver and should be supplied complete with a carrying case for proper maintenance J and 20 blades.
2.		**Skin Graft Mesher (S/S-Stainlesst**	Mesher should have a full range of meshing

		steel, Tunguston Coated Rust Resistant)	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 0.5 mm thickness as skin graft corner. 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 5. Skin graft mesher 6. Mesher sheet
3.		**Skin Grafting Handle (S/S Stainlesst Steel, Tunguston Coated Rust resistant)**	1. Skin graft handle humbys 2. Silver knife handle (Razor blade handle) 3. Skin graft handle box autoclavable 4. Skin graft board (graft spreader)
4.		**Pneumatic Tourniquet**	The tourniquet should be automatic one wit 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 in AC current is interrupted should have computerized memory. Should have micro processor monitors and gives alarm both by audible and visual indicators. Should have alarm for low pressure low battery, leaks, kinks elapse time and start up checks. Should be able to operate either as single or double cuff functions. Should be provided with autoclavable tourniquet cuffs with silicone bladder single and double for baby child and audit for ami and thigh. Singled cuff set of 5 set of 3 Singled cuff set of 5 set of 2
5.		**Microprocessor controlled power driver systems** **(S/S stainlesst steel, Tunguston coated Rust resistant)**	Microprocessor controlled power driver system should provide complete functions of bone harvesting drilling & fixation of small bone and helps in osteosynthesis. Should have computerised control with touch screen facility having options of digital display

			of spjeed & to preselect acceleration and beraking of handpiece speed. Should be provided with cable & footswitch & should be provided with complete set of following accessories. Universal drill multiple handpiece 1:5 speed upto 30000 rpm. Micro Saggital saw with blades with speed of 20000 cycles/min. Micro Oscillating saw with blades with speed of 15000 rpm. Micro reciprocating saw with blades with speed of 20000.
		Basic plastic surgery instrument set (S/S Stainlesst steel, tungustom coated rust resistant)	The instruments should be of improved steel with high precision quality with CE, TUV or ISO 9002 certification. 1. The fine cutting instruments should be of Tungsten carbide - Supercut variety. The needle holders should be with Tungsten Carbide inserts for extra durability.

			1. Converse skin hook small. 1. Converse skin hook large. 1. Mathieu retractor (Cat's Paw) 1. Hajek's retractor 1. Langenbeck's retractor signal 1. 1. Langenbeck's retractor large. 1. Weislander retractor (self retaining) 1. Dental Syringe 1. Stainless steel scale 6" 1. Stainless steel scale 12" 1. Castroviejo calipers 1.Bristovv Bone Laver 1. Smith Peterson Osteotome 1 Omm 1 Smith Peterson Osteotome 20 Omm 1. Smith Peterson Osteotome 25 Omm 1. Tessier Osteotome set of 8. 1. Gouge 7"2mm 1. Gouge 7"4mm 1 French Chisel 11mm 1 Halsted Mosquito artery forceps 5 3/4" Cvd 1 Halsted Mosquito artery forceps 5 3/4" St.

			1 Kocher Forceps 1 Kely Artery forceps st. 1 Kelly Artery forceps cvd 1 Dandy Tissue forceps 1 Mcindoe dissecting forceps 6" non toothed serrated jaws. 1 Potts Smith Dressing forceps 7" 1 Adson Tissue forceps 4 3/4" toothed delicate 1 Adson Tissue forceps serrated jaws 43/4" 1 Gillis Dissecting forceps 6" toothed. 1 Allies Tissue forceps 6" 4x5" teeth. 1 Elevator double ended, spoon shaped, Molt Dissector 1 Howarth Elevator 1 Scissor angle short blades 18 mm width serrated bleades 1 Kliner scissors straight with fine points. 1 Kliner scissors curved on flat 12 cm 1 Mcindoe scissors cvd. On flat with round points 7" 1 Iris Scissors straight sharp Tc supercut.

			1 Surgical scissors 5" st. sharp points TC 1 Mayo Hegar needle holder 614" 1 Derf needle holder 4 3/4" 1 Maltz Rasp Tc 1 Mcindoe rasp TC 1 Mallet 8 Oz 1 Asch forceps 1 Ruskin Bone cutting forceps 1 Luc's forceps 1 Padgett St bone cutting forceps 1 Padgett angled bone cutting forceps 1 Bunnel Bone drill small 1 Knuckle Bender Large 1 Knuckle bender Medium 1 Knuckle bender Small 1 Mcindoes Raspatory 1 Bard Parker Knife Handle No. 3 1 Bard Parker Knife Handle No. 4 1 Bard Parker long knife handle No. 3 Barron Knief Handle Octagonal Backhaus Towel clips 3 /2

			Sponge holding tube 9 A" Frazier suction tube 8 French Frazier suction tube 10 French Magilli's suction tube size 2 Meade wire cutter pilers Dressing Trolley
		Cleft Palate Instruments **(S/S - Stainlesst Steel, Tunguston Coated Rust Resistant)**	Dingman Mouth GAG - Adult Dingman Mouth GAG - Paediatric Dingman Mouth GAG - Advanced Millart Model Dingman Mouth GAG - With Fibre optic connection for the blades Cleft Palat Elevators Short Straight Cleft Palat Elevators Short Left Cleft Palat Elevators Short Right 1 Cleft Palate Elevators CD Left 1 Cleft Palate Elevators CD Right 1 Downs Cleft Palate Elevators Left 1 Downs Cleft Palate Elevators Right 1 Downs Cleft Palate Elevators Straight 1 Howarth Dissector / Elevator 5mm

			1 Howarth Dissector / Elevator 3mm 1 Septal Elevator 1 Kilner skin hook 1 Flat Skin Hook 1 Cleft Palate Hook Single 1 Cleft Palate Hook Double 1 Long Tonsil Artery Forceps Straight 1 Long Tonsil Artery Forceps Curved 1 Long toothed Waugh forceps 1 Long non toothed Waugh Forceps 1 Adsons Forceps 4 3/4" 1 Adsons Toothed forceps 4 3/4" 1 Senn Double End retractor plain 1 Senn Double End retractor claw type 1 Hajek Cheek Retractor 1 Disposable Cheek Retractor Paediatric 1 Disposable Cheek Retractor Adult 1 Cats Paw Pair 1 IRIS scissor straight sharp 4'/2" 1 IRIS Scissor curved sharp 4'/4" 1 Tenetomy Scissor curved

			1 Cleft Palate Scissors 1 Dental Sealers Set 1 Dental Sealer Double Ended : Types Dental Curette 6" 1 Mithchells Trimmer Ruler Calipers Long Needle Holder 1 Knot Tier / Pusher - Negus 1 1 Mouth Prop.
		Boxes, Containers **(S/S-Stainlesst Steel, Tunguston Coated Rust resistant)**	Stainless steel Box for Max kit with two trays. Stainless steel box for Bone plates & screw. Stainless steel box for Bone Plate & Screw Small for 1.5 or 2 or 2.5 mm Stailess Steel Box for General Instruments small medium big. Box with 12 containers for screw & plates. Drill Bits container K write container Mini screw container Mini plate container

			General instrument box with Sijicone Mate
			1. Round skin hook gillies & medium 2. Flat Skin hook 3. Flat skin hook long 4 Double skin hook sharp small 5 Double skin hook sharp wide 6. Double hook blunt 7. Killans septal elevator 8. Freer elevator 9. Joseph Skin elevator 10. Cottle elevator 11. Pierce elevator 12. Masing - graduate elevator 13. Farabeuf elevator straight 14. Farabeuf elevator curved 15. Killians septal elevator with suction 16. Aufricht retractor wide /narrow 17. Aufricht waiter retractor 18. Kliner ala retractor 19. Senn double and retractor - claw type 20. Senn double end retractor

			21. Senn Miller retractor 22. Cottle columella clamp 23 MM chisel 24. 3/4 MM Chisel 25. 7MM Chisel 26. Single guarded chisel 27. Silver chisel left 28. Silver chisel right 29. Double guarded chisel 7/8/14/16MM 30. Me Indoes nasal chisel 13/15 MM 31. Silver cartilage chisel cd lt/rt 32. Converse osteotome 1 mm / 2mm 33. Nasal saw straight 34. Nasal saw left 35. Nasal saw right 36. Ballengers swivel knife 37. Ballengers swivel knife dbayonet shaped 38. Joseph button end knife 39. V cut Gouge 40. Blunt gouge 41. Bayonet gouge

			42. Cross Serrated Rasp 43. Forward cutting rasp 44. Backward cutting rasp 45. Double action rasp 46. Glabellar Rasp 47. Maltz Rasp double ended 48. Diamond Rasp Small 49. Diamond Rasp medium 50. Mallet Nylon head 51. Mallet Ordinary 52. Cartilage crusher 53. Septal lower Lateral Morselizer 54. Suction Tio No. 7/9/12 55. Ruler 56. Calipers 57. Killains Nasal Sdpeculam 58. Thudichums Nasal Spectulam 59. Trocar & Cannula 60. Flat Knife Handle No. 3 61. Nasal Splint Pack of 10 62. Nasal Splint with forehead extension Pack of

			100 63. Webster Needle holder 64. 5" Needle holder 65. Gilldies Needle Holder 66. TC Needle holder 67. Adsons Forceps non Toothed 68. Adsoons forceps Toothed 69. Adsons Forcept Cross Serrated 70. Bayonet forceps 71. Tilleys Dressing forceps 72. Lues forceps set of 3 73. Septum Punch forceps 74. Asch forceps 75. Walsharm forceps 76. Baby Waishram forceps 77. Nasal Septal Forceps Straight & Angled 78. Baby Mosquito forceps straight 79. Baby Mosquito forceps curved 80. Tenetomy Scissors Straight 81. Tenetomy Scissors curved 82. Kliner scissors straight

			83. Kliner scissors curved 84. Iris Scissor curved 85. Foraon Angular Scissors 86. Aufricht Scissors 87. Cartilage Scissors
		Infusion Pump **(S/S- Stainlesst Steel, Tunguston Coated Rust resistant)**	Infusion Pump Medical pump (4169) Dispenser DP 20 For Tumescense Local Anesthesia For Lipio Suction Surgery of 0-20 LT/H with On-OFF Pdeal OT suitable with forward mode, tubing set. Nouvag Swiss Make
		Radio frequency machine **(S/S Stainlesst steel, Tunguston coated Rust resistant)**	With Monopolar and bipolar resurfacig and other accessory probes and models.
		Dermabrasion instrument **(S/S-Stainlesst Steel, Tunguston Coated Rust resistant)**	1 Korean Micro motor with detachable NSK hand piece. 2. Keren micro Motor with detachable NSK hand piece. Diamond Burrs (Round Wheels) 3. 15x1 Omm

			4. 14x1 Omm 5. 11xSmm Cylindrical 6. 6x11mm 7. 7x11mm 8. 12x14mm
		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) - Fluorscent 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.
		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 (WxLxH) - 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 Recommended Running voltage - 75 to 125v Power output connectors (diameter) - Shrouded, 4 mm.

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