

TENDER DOCUMENT
(NOT TRANSFERABLE)

Tender Ref.No. 55/MPPHSCL/Medical college-Equip/2015, Date 07.11.2015

Madhya Pradesh Public Health Services Corporation Limited
(A Government of Madhya Pradesh Undertaking)

Invites

**Online Tender for the Annual Rate Contract of equipments/Instruments to be Supplied
Installed at Various Hospitals of Government of Madhya Pradesh for a Period of one Year
List- 166 Equipment for Various Departments of Medical College Associated
Hospitals:-
Surgery, Orthopaedics, Ophthalmology, General Medicine, Pulmonary Medicine
Paediatrics, Psychiatry, Skin & V.D., Radio-diagnosis Departments, Trauma
center & NABL Lab**

Madhya Pradesh Public Health Services Corporation Limited,
(A Government of Madhya Pradesh Undertaking)
1 Arera hills, behind Tilhan sangh building, Bhopal 462011 (M.P.)
Phone: 0755-4045264
Website: www.health.mp.gov.in
Email id: procmpphscl@gmail.com

[For any further clarifications / queries on e-Tendering, e-Procurement Cell can be contacted at:
Helpdesk: TCS helpdesk, 5th Floor , Corporate Zone, DB Mall , Arera Hills , Bhopal; Toll Free
Nos.: 1800-274-5454, 1800-274-8484; Mobile No. 08965065346, 08965022417, Phone No. 0755-
6500102; e-mail: eproc_helpdesk@mpsdc.gov.in]

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SECTION-I

NOTICE INVITING GLOBAL TENDERS (NIT)

Madhya Pradesh Public Health Services Corporation Limited
(A Government of Madhya Pradesh Undertaking)
1, Arera Hills, behind Tilhan Sangh building
Bhopal - 462011.
Phone: 0755-4045264
Website: www.health.mp.gov.in

Tender Enquiry No.: 55/MPPHSCL/Medical College Equip/2015

Dated:07/11/2015

Managing Director, MPPHSCL, for and on behalf of Department of Public Health & Family Welfare, Govt. of Madhya Pradesh invites online national tender, for **List- 1-166 Equipment for Various Departments of Medical College Associated Hospitals :-**

Surgery, Orthopaedics (To be done with tender of 187 Orthopedic Implants.), Ophthalmology, General Medicine, Pulmonary Medicine, Paediatrics, Psychiatry, Skin & V.D., Radio-diagnosis Departments, Trauma center & NABL Lab, from eligible and qualified Bidders for supply, installation, testing and commissioning of Equipment as per details given below:

Name & List of **List- 1-166 Equipment for Various Departments of Medical College Associated Hospitals :-**

Surgery, Orthopaedics, Ophthalmology, General Medicine, Pulmonary Medicine, Paediatrics, Psychiatry, Skin & V.D., Radio-diagnosis Department, Trauma center & NABL Lab Approved by Technical Expert Committee of CPC formed by Govt. for Medical Colleges & Associated Hospitals Enclosed with the indent form.

Schedule No.	Description	No. Of items	Estimated Cost (INR)
1	<i>Surgery</i>	88	As per Budget Head Allocation in Equipment & Instruments head of DME
	<i>Orthopaedics</i>	To be done with tender of 187 Orthopedic Implants.	
2	<i>Ophthalmology</i>	23	
3	<i>General Medicine</i>	24	
4	<i>Pulmonary Medicine</i>	06	
5	<i>Paediatrics</i>	05	
6	<i>Psychiatry</i>	11	
7	<i>Skin & V.D.</i>	03	
8	<i>Radio-diagnosis</i>	03	
9	<i>Combination of pulsed microwave therapy cum computerised Traction unit with couch.</i>	1	
10	<i>NABL Lab</i>	2	As per Budget Head Allocation in FDA 2015-16

Schedule No.	Description	No. Of items	Estimated Cost (INR)
	<i>Total</i>	166	

1. Note: expected % variation in indicative quantity mentioned in the table above 20 %.

The Schedule of E-Tendering Activities are as under:

Sr. No.	Activity	Date and Time
1	Start of Purchase of Tender Document -online	07/11/2015 at 18:30 Hrs
2	End of Purchase of Tender Document -online	16/12/2015 at 14:00 Hrs
3	Date and time of pre-bid meeting*at 1, Arera Hills, behind Tilhan sangh building, Bhopal (MP).	19/11/2015 at 12:00 Hrs
4	End of Bid Submission –online and Technical Bid only physical bid submission at 1, Arera Hills, behind Tilhan sangh building, Bhopal (MP).	16/12/2015 at 15:00 Hrs
5	Opening of Technical Bid (Envelope-A)-online,Physical Bid opening * The Physical bid opening kept at 1, Arera Hills,behind Tilhan sangh building, Bhopal (MP).	16/12/2015 at 16:00 Hrs

- (1) Tender documents may be viewed or purchased online by interested and eligible bidders from the website www.mpeproc.gov.in on the above mentioned dates after paying Tender fee of Rs.5,000/- and Processing Fee, as applicable. Tender document may also be viewed from the website www.health.mp.gov.in.
- (2) Bidders are required to submit their tenders online at www.mpeproc.gov.in on or before the key dates given above. The Physical copy of the Technical Bid along with original EMD/Bid Security of Rs.3,00,000 (irrespective of no of schedules quoted) should also be submitted at the address below latest by 16/12/2015 at 15:00 Hrs.
- (3) All further notifications/amendments, if any shall be posted on www.mpeproc.gov.in and www.health.mp.gov.in only. No separate communication shall be made with individual Bidders.

**Managing Director,
Madhya Pradesh Public Health Services
Procurement Corporation (MPPHSC) Limited
Bhopal**

SECTION - II

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SECTION – II GENERAL INSTRUCTIONS TO TENDERERS (GIT)

A. PREAMBLE

1. Definitions and Abbreviations

1.1 The following definitions and abbreviations, which have been used in these documents shall have the meanings as indicated below:

1.2. Definitions:

- (i) “Consignee” means the Hospital/Institute/Medical College/ person to whom the goods are required to be delivered as specified in the Contract. If the goods are required to be delivered to a person as an interim consignee for the purpose of despatch to another person as provided in the Contract then that “another” person is the consignee, also known as ultimate consignee.
- (ii) “Contract” means the written agreement entered into between the Tender Inviting Authority and/or consignee and the supplier, together with all the documents mentioned therein and including all attachments, annexure etc.
- (iii) “Day” means calendar day.
- (iv) “Earnest Money Deposit” (EMD) means bid security/ monetary or financial guarantee to be furnished by a bidder along with its tender.
- (v) “Goods” means the articles, material, commodities, furniture, fixtures, raw material, spares, instruments, machinery, equipment, medical equipment, associated software, industrial plant etc. which the supplier is required to supply to the Tender Inviting Authority under the contract.
- (vi) “Inspection” means activities such as measuring, examining, testing, gauging one or more characteristics of the product or service and comparing the same with the specified requirement to determine conformity.
- (vii) “Ordering Authority” OR “Purchaser” means the competent authorities of DoPH& FW, Medical Education, GAS Rahat Departments of Government of Madhya Pradesh, as the case may be (herein after referred to as “Ordering Authority”), , in their respective jurisdictions, purchasing goods and services as incorporated in the Tender Enquiry document, namely:
 - a. Tender Inviting Authority/Managing Director, MPPHSCL
 - b. Chief Medical & Health Officer
 - c. Chief Medical & Health Officer, Gas Rahat
 - d. Civil Surgeon cum Hospital Superintendent
 - e. Superintendent, Special Hospitals
 - f. Superintendents, Gas Rahat hospitals
 - g. Superintendent cum Joint Director Medical College (Specifically)
 - h. Dean Gandhi Medical College, Bhopal
 - i. Dean Mahatma Gandhi Memorial Medical College, Indore
 - j. Dean Gajra Raja Medical College, Gwalior.
 - k. Dean NSCB Medical College, Jabalpur.
 - l. Dean S.S.Medical College, Rewa.
 - m. Dean Bundelkhand Medical College Sagar.

[Please mention name of authority, entitled to place purchase orders along with contact details-Medical college Authorities as detailed above as per R/C, rest Authorities to see their budget head ,see specifications(Whether tertiary level equipment is suitable) and seek permission from Authority before deciding on Procurement on R/C]

- (viii) “Performance Security” means monetary or financial guarantee to be furnished by the successful bidder for due performance of the contract placed on it.
- (ix) “Services” means services allied and incidental to the supply of goods, such as transportation, installation, testing, commissioning, provision of technical assistance, training, after sales

service, maintenance service and other such obligations of the supplier covered under the contract.

- (x) "Specification" means the document/standard that prescribes the requirement with which goods or service has to conform.
- (xi) "Supplier" means the individual or the firm supplying the goods and services as incorporated in the contract.
- (xii) "Tender Inviting Authority" is Managing Director, Madhya Pradesh Public Health Services Procurement Corporation Limited, Ground Floor, Gramin Bank Building, Jail Road, Arera Hills, Bhopal (MP).
- (xiii) "Tender" means Bids / Quotation / Tender received from a Firm / Bidder / Bidder.
- (xiv) "Bidder" means Bidder/ the Individual/Firm or company submitting Bids / Quotation / Tender
- (xv) "Indenting Authority" means the Department of Govt. of Madhya Pradesh who sends its indent to MPPHSCL for procurement of goods and related services.

1.3 Abbreviations:

- (i) "BG" means Bank Guarantee
- (ii) "CD" means Custom Duty
- (iii) "CENVAT" means Central Value Added Tax
- (iv) "CMC" means Comprehensive maintenance Contract (labour, spare and preventive/ breakdown maintenance)
- (v) "CST" means Central Sales Tax
- (vi)
- (vii) "DP" means Delivery Period
- (viii) "ED" means Excise Duty
- (ix) "GCC" means General Conditions of Contract
- (x) "GIT" means General Instructions to Tenderers
- (xi) "LC" means Letter of Credit
- (xii) "NIT" means Notice Inviting Tenders.
- (xiii) "RR" means Railway Receipt
- (xiv) "SCC" means Special Conditions of Contract
- (xv) "SIT" means Special Instructions to Bidders
- (xvi) "TE Document" means Tender Enquiry Document
- (xvii) "VAT" means Value Added Tax
- (xviii) "AERB" means Atomic Energy Regulatory Board
- (xix) "DoPH&FW" means Department of Health & Family Welfare, Govt. of MP
- (xx)
- (xxi) "DME" means Department of Medical Education, Govt. of M.P.
- (xxii) "HOD" means Head of Department
- (xxiii) "OA" means Ordering Authority
- (xxiv) "TIA" means Tender Inviting Authority
- (xxv) "MPPHSCL" means Madhya Pradesh Public Health Services Corporation Limited
- (xxvi) "INCOTERMS" means International Commercial Terms as on the date of Tender opening.
- (xxvii) "BL" means Bill of Lading
- (xxviii) "FOB" means Free on Board
- (xxix) "FOR" means Free on Rail
- (xxx) "CIP (Destination)" means Carriage and Insurance Paid up to named port of destination
- (xxxi) "DDP" means Delivery Duty Paid named place of destination (consignee site)
- (xxxii) "CIF" means Cost, Insurance and Freight

2. Introduction

- 2.1 The Tender Inviting Authority has issued these Tender Documents for supply of goods and related services as mentioned in Section – VI – “List of Requirements”, which also indicates, *interalia*, the required delivery schedule, terms and place of delivery.
- 2.2 This section (Section II - “General Instruction to Tenderers”) provides the relevant information as well as instructions to assist the prospective bidders in preparation and submission of tenders. It also includes the mode and procedure to be adopted by the Tender Inviting Authority for receipt and opening as well as scrutiny and evaluation of tenders and subsequent placement of contract.
- 2.3 The bidders shall also read the Special Instructions to Tenderers (SIT) related to this purchase, as contained in Section III of these documents and follow the same accordingly. Whenever there is a conflict between the GIT and the SIT, the provisions contained in the SIT shall prevail over those in the GIT.
- 2.4 Before formulating the tender and submitting the same to the Tender Inviting Authority, the bidder should read and examine all the terms, conditions, instructions, checklist etc. contained in the Tender Documents. Failure to provide and/or comply with the required information, instructions etc. incorporated in these Tender Documents may result in rejection of its tender.

3. Availability of Funds

- 3.1 Expenditure to be incurred for the proposed purchase will be met from the funds available with the Indenting Authority.

4. Language of Tender

- 4.1 The tender submitted by the bidder and all subsequent correspondence and documents relating to the tender exchanged between the bidder and the Tender Inviting Authority, shall be written in English language. However, the language of any printed literature furnished by the bidder in connection with its tender may be written in any other language provided the same is accompanied by an English translation and, for the purpose of interpretation of the tender, the English translation shall prevail.
- 4.2 The tender submitted by the bidder and all subsequent correspondence and documents relating to the tender exchanged between the bidder and the Tender Inviting Authority, may also be written in Hindi language, provided that the same are accompanied by English translation, in which case, for purpose of interpretation of the tender etc. the English translations shall prevail.

5. Eligible Bidders

- 5.1 This invitation for tenders is open to all manufacturers located in India and Indian subsidiaries of foreign manufacturers or authorised importers of foreign manufactures who fulfil the eligibility criteria specified in these documents.

6. Eligible Goods and Services

- 6.1 All goods and related services to be supplied under the contract shall have their origin in India or any other country with which India has not banned trade relations. The term “origin” used in this clause means the place where the goods are mined, grown, produced, or manufactured or from where the related services are arranged and supplied.

7. Tendering Expense

- 7.1 The bidder shall bear all costs and expenditure incurred and/or to be incurred by it in connection with its tender including preparation, mailing and submission of its tender and subsequently processing the same. The Tender Inviting Authority will, in no case be responsible or liable for any such cost, expenditure etc regardless of the conduct or outcome of the tendering process.

B. TENDER ENQUIRY DOCUMENTS

8. Content of Tender Enquiry Documents

8.1 In addition to Section I – “Notice Inviting Tender” (NIT), the TE documents include:

- Section II – General Instructions to Bidders (GIT)
- Section III – Special Instructions to Bidders (SIT)
- Section IV – General Conditions of Contract (GCC)
- Section V – Special Conditions of Contract (SCC)
- Section VI – List of Requirements
- Section VII – Technical Specifications
- Section VIII – Bidder Information Form
- Section IX – Qualification Criteria
- Section X – Tender Form
- Section XI – Price Schedules
- Section XII – Manufacturer’s Authorization Form
- Section XIII – Bank Guarantee Form for EMD
- Section XIV – Bank Guarantee Form for Performance Security/CMC Security
- Section XV – Contract Forms A & B
- Section XVI – Proforma of Consignee Receipt Certificate
- Section XVII – Proforma of Final Acceptance Certificate by the consignee
- Section XVIII – Check List for the Bidders

8.2 The details of the required goods and services, the terms and conditions and procedure for tendering, tender evaluation, placement of contract, the applicable contract terms and, also, the standard formats to be used for this purpose are incorporated in the above mentioned documents. The interested bidders are expected to examine all such details to proceed further.

9. Amendments to Tender Documents

9.1 At any time prior to the deadline for submission of tenders, the Tender Inviting Authority may, for any reason deemed fit by it, modify the Tender Documents by issuing suitable amendment(s) to it.

9.2 Such an amendment will be notified online on www.mpeproc.gov.in and/or www.health.mp.gov.in and same shall be binding to all bidders. All prospective bidders are advised to see above websites regularly for information. Tender Inviting Authority shall not be responsible in any manner if prospective bidders miss any notification(s) placed on above website(s).

9.3 In order to provide reasonable time to the prospective bidders to take necessary action in preparing their tenders as per the amendment(s), the Tender Inviting Authority may, at its discretion extend the deadline for the submission of tenders and other allied time frames, which are linked with that deadline.

10. Clarification of Tender Documents

10.1 A bidder requiring any clarification or elucidation on any issue of the Tender Documents may take up the same with the Tender Inviting Authority in writing, by post or by e-mail (cgmt.mpphsc@gmail.com) The Tender Inviting Authority will respond in writing to such request provided the same is received by the Tender Inviting Authority not later than seven days prior to the prescribed date of submission of tenders.

10.2 Interested eligible bidders may also depute its authorized representative to attend pre-bid meeting at the scheduled date and time given in Section-I of this document. Attending pre-bid meeting by prospective bidder(s) is not mandatory.

10.3 The purpose of pre-bid meeting is to clarify doubts, if any and to provide responses to the clarifications sought by prospective bidders regarding terms and conditions, technical specifications and other provisions given in the tender document. The clarifications so sought by prospective bidders during pre-bid meeting shall be appropriately responded and minutes of pre-bid meeting

along with written responses / clarifications shall be uploaded on the websites www.mpeproc.gov.in and www.health.mp.gov.in.

C. PREPARATION OF TENDERS

11. Documents Comprising the Tender

11.1 The **Two Bid Online System**, i.e. “Technical Bid” (Cover-A) and “Financial Bid” (Cover-C) prepared by the bidder, shall comprise the following:

A) **Techno – Commercial Tender – Un-priced Tender (Cover-A)**

- i) Earnest money furnished in accordance with GIT Clause 19;
- ii) Tender Form as per Section X (without indicating any prices).
- iii) Documentary evidence, as necessary in terms of GIT Clauses 5 and 17 establishing that the bidder is eligible to submit the tender and also qualified to perform the contract if its tender is accepted.
- iv) Bidders submitting bid for goods manufactured by other manufacturers shall furnish Manufacturer’s Authorization Form (in the format given in Section-XII)
- v) Power of Attorney in favour of signatory of Tender Documents and signatory of Manufacturer’s Authorization Form.
- vi) Documents and relevant details to establish in accordance with GIT Clause 18 that the goods and the allied services to be supplied by the bidder conform to the requirement of the Tender Documents.
- vii) Performance Statement as per section IX along with relevant copies of orders and end users’ satisfaction certificate in the desired format.
- viii) Certificate of Incorporation of the Bidder in the country of origin.
- ix) Checklist as per Section XVIII.

B) **Price Tender (to be submitted online, no physical copy) – (Cover-C)**

The Price Schedule as per format given in Section XI (as appropriate) should filled and submitted **online only** with all the details including make, model etc. of the goods and services offered.

11.2 The authorized signatory of the bidder must sign on the physical copy of Tender Documents duly stamped at appropriate places and initial all the pages of the tender.

11.3 A Tender, which does not fulfil any of the above requirements and/or gives evasive information/reply against any such requirement, shall be liable to be ignored and rejected.

12. Tender currencies

12.1 The bidder supplying indigenous or already imported goods shall quote only in Indian Rupees.

12.2 Tenders, where prices are quoted in any other way shall be treated as non-responsive and rejected.

13. Tender Prices

13.1 The Bidder shall indicate on the Price Schedule provided under Section XI all the specified components of prices shown therein including the unit prices and total tender prices of the goods and services it proposes to supply/perform against the requirement. All the columns shown in the price schedule should be filled up as required. If any column does not apply to a bidder, same should be filled as “00” by the bidder.

13.2 If there is more than one Schedule in the List of Requirements, the bidder has the option to submit its Bid for any one or more Schedules. However, while quoting for a schedule, the bidder shall quote for the complete requirement of goods and services as specified in that particular schedule.

13.3 While filling up the columns of the Price Schedule, the following aspects should be noted for compliance:

13.3.1 For domestic goods or goods of foreign origin located within India, the prices in the corresponding price schedule shall be entered separately in the following manner:

- a) the price of the goods, quoted ex-factory/ ex-showroom/ ex-warehouse/ off-the-shelf, as applicable, including all taxes and duties like sales tax, CST/VAT, CENVAT, Custom Duty, Excise Duty etc. already paid or payable on the components and raw material used in the manufacture or assembly of the goods quoted ex-factory etc. or on the previously imported goods of foreign origin quoted ex-showroom etc;
- b) Any sales or other taxes and any duties including excise duty, which will be payable on the goods in India if the contract is awarded;
- c) charges towards Packing & Forwarding, Inland Transportation, Insurance (local transportation and storage) would be borne by the Supplier from warehouse to the consignee site for a period including 3 months beyond date of delivery, Loading/Unloading and other local costs incidental to delivery of the goods to their final destination as specified in the List of Requirements and Price Schedule;
- d) The price of incidental services, as mentioned in List of Requirements and Price Schedule;
- e) The prices of Turnkey (if any), as mentioned in List of Requirements, Technical Specification and Price Schedule; and
- f) The price of annual CMC, as mentioned in List of Requirements, Technical Specification and Price Schedule.

13.5 Additional information and instruction on Duties and Taxes:

13.5.1 If the Bidder desires to ask for excise duty, sales tax/VAT, Service Tax, Works Contract Tax etc. to be paid extra, the same must be specifically stated. In the absence of any such stipulation the price will be taken inclusive of such duties and taxes and no claim for the same will be entertained later.

13.5.2 Excise Duty:

- a) Prices are inclusive of Excise duty. If a Bidder chooses to mention the excise duty in the price bid and also desires to be reimbursed for variation, if any, in the excise duty during the time of supply, the bidder must clearly mention the same and also indicate the rate and quantum of excise duty included in its price. Failure to indicate all such details in clear terms may result in rejection of that tender.
- c) Subject to sub clauses 13.4.2 (a), any change in excise duty upward/downward as a result of any statutory variation in excise duty taking place within contract terms shall be allowed to the extent of actual quantum of excise duty paid by the supplier. In case of downward revision in excise duty, the actual quantum of reduction of excise duty shall be reimbursed to the Purchaser/Ordering Authority by the supplier. All such adjustments shall include all reliefs, exemptions, rebates, concession etc. if any obtained by the supplier.

13.5.3 Sales Tax:

If a bidder asks for sales tax/ VAT, Service Tax and Works Contract Tax to be paid extra, the rate and nature of sales tax applicable should be shown separately. The sales tax / VAT, Service Tax and Works Contract Tax will be paid as per the rate at which it is liable to be assessed or has actually been assessed provided the transaction of sale is eligible to sales tax / VAT, Service Tax and Works Contract Tax and is payable as per the terms of the contract. If any refund of Tax is received at a later date, the Supplier must return the amount forth-with to the Tender Inviting Authority.

13.5.4 Octroi Duty and Local Duties & Taxes:

Normally, goods to be supplied to government departments against government contracts are exempted from levy of town duty, Octroi duty, terminal tax and other levies of local bodies. However, on some occasions, the local bodies (like town body, municipal body etc.) as per their regulations allow such exemptions only on production of certificate to this effect from the concerned government department. Keeping this in view, the supplier shall ensure that the stores to be supplied

by the supplier against the supply order (s) placed by the Ordering Authority are exempted from levy of any such duty or tax and, wherever necessary, obtain the exemption certificate from the Ordering Authority/ Purchaser.

However, if a local body still insists upon payment of such local duties and taxes, the same should be paid by the supplier to the local body to avoid delay in supplies and possible demurrage charges and obtain a receipt for the same. The supplier should forward the receipt obtained for such payment to the Ordering Authority to enable the Ordering Authority to reimburse the supplier and take other necessary action in the matter.

13.6 For insurance of goods to be supplied, relevant instructions as provided under GCC Clause 11 shall be followed.

13.7 The need for indicating all price components by the bidders as required in the GIT Clause 13 is for the purpose of comparison of the tenders by the purchaser and will no way restrict the purchaser's right to award the contract on the selected bidder on any other terms offered.

14. Indian Agent

Deleted

15. Firm Price

15.1 Unless otherwise specified in the SIT, prices quoted by the bidder shall remain firm and fixed during the currency of the contract and not subject to variation on any account.

15.2 However, as regards taxes and duties, if any, chargeable on the goods and payable, the conditions stipulated in GIT clause 13 will apply.

16. Alternative Tenders

16.1 Alternative Tenders are not permitted. All those bidders shall be disqualified for all quoted products if any person (s) (i.e partner (s) in case of a partnership firm, member (s) in case of a company or the proprietor in case of a proprietorship firm, as the case may be) holds 20% or more share (ownerships) in more than one bidding entities who have quoted for same product (s)".

16.2 If a bidder submits bid on behalf of the Principal / OEM (if allowed in the tender), the same bidder shall not submit a bid on behalf of another Principal / OEM in the same tender for the same item/product. In a tender either the bidder on behalf of the Principal / OEM or Principal/OEM can bid but both cannot bid simultaneously for the same item/product in the same tender.

16.2 Bidders are requested to quote their most suitable model meeting tendered technical specifications. Alternate models are not allowed to quote.

17 Documents Establishing Bidder's Eligibility and Qualifications

17.1 Pursuant to GIT clause 11, the bidder shall furnish, as part of its tender, relevant details and documents establishing its eligibility to quote and its qualifications to perform the contract if its tender is accepted.

17.2 The documentary evidence needed to establish the tenderer's qualifications shall fulfil the following requirements:

a) Manufacturer or Indian subsidiary of foreign manufacturer has the required financial, technical, production and after sales services capability necessary to perform the contract and, further, it meets the qualification criteria incorporated in the Section IX in these documents.

18. Documents establishing Good's Conformity to Tender Document.

18.1 The bidder shall provide in its tender the required as well as the relevant documents like technical data, literature, drawings etc. to establish that the goods and services offered in the tender fully

- conform to the goods and services specified by the Tender Inviting Authority in the Tender Documents. For this purpose the bidder shall also provide a clause-by-clause statement of compliance on the technical specifications and other technical details incorporated by the Tender Inviting Authority in the Tender Documents vis-à-vis the technical details of the offered product to establish technical responsiveness of the goods and services offered in its tender.
- 18.2 In case there is any variation and/or deviation between the goods & services prescribed by the Tender Inviting Authority and that offered by the bidder, the bidder shall list out the same in a chart form without ambiguity and provide the same along with its tender.
- 18.3 If a bidder furnishes wrong and/or misguiding/misleading data, statement(s) etc. about technical acceptability of the goods and services offered by it, its tender will be liable to be ignored and rejected in addition to other remedies available to the Tender Inviting Authority in this regard.
- 18.4 Tender Inviting Authority reserves the right to call the Bidder to demonstrate its quoted model (s) before the Tender Evaluation Committee within 7-15 days from the date of issuing letter requesting demonstration.

19. Earnest Money Deposit (EMD)

- 19.1 Pursuant to GIT clauses 11.1 A) the bidder shall furnish along with its tender, earnest money of Rs.3,00,000/- (Rupees Three lakh only).
- 19.2 No exemption is allowed in EMD. Without valid EMD, bid shall be rejected
- 19.3 The earnest money shall be in the form of Bank Guarantee issued from any scheduled bank in India. In case of Bank Guarantee furnished from a Bank outside India (i.e. foreign Bank), it should be authenticated and countersigned by any nominated Bank in India by way of back-to-back counter guarantee and the same should be submitted along with the bid.
- 19.4 The Bank Guarantee should be pledged to Managing Director, Madhya Pradesh Public Health Services Corporation Limited, payable at Bhopal and as per the format specified under Section XIII in these documents.
- 19.4 The Bank Guarantee shall be valid for 180 days from techno – commercial tender opening date.
- 19.5 Unsuccessful bidders' earnest money will be returned to them without any interest, after expiry of the tender validity period, but not later than thirty days after conclusion of the resultant contract. Successful bidder's earnest money will be returned without any interest, after receipt of performance security from that bidder.
- 19.6 Earnest Money is required to protect the Tender Inviting Authority against the risk of the Bidder's conduct, which would warrant the forfeiture of the EMD. Earnest money of a bidder will be forfeited, if the bidder withdraws or amends its tender or impairs or derogates from the tender in any respect within the period of validity of its tender or if it comes to notice that the information/documents furnished in its tender is incorrect, false, misleading or forged without prejudice to other rights of the Tender Inviting Authority. The successful bidder's earnest money will be forfeited without prejudice to other rights of Tender Inviting Authority if it fails to furnish the required performance security within the specified period.

20. Tender Validity

- 20.1 If not mentioned otherwise in the SIT, the tenders shall remain valid for acceptance for a period of 120 days (One hundred and twenty days) after the date of techno-commercial tender opening prescribed in the Tender Documents. Any tender valid for a shorter period shall be treated as unresponsive and rejected.
- 20.2 In exceptional cases, the bidders may be requested by the Tender Inviting Authority to extend the validity of their tenders up to a specified period. Such request(s) and responses thereto shall be conveyed by post or by e-mail. The bidders, who agree to extend the tender validity, are to extend the same without any change or modification of their original tender and they are also to extend the validity period of the EMD accordingly. A bidder, however, may not agree to extend its tender validity without forfeiting its EMD.
- 20.3 In case the day up to which the tenders are to remain valid falls on/ subsequently declared a holiday or closed day for the Tender Inviting Authority, the tender validity shall automatically be extended up to the next working day.

21. Signing and Sealing of Tender

- 21.1 The Bidders shall submit their tenders online as per key schedule dates indicated and physical copy of Technical Bid as per the instructions contained in GIT Clause 11.
- 21.2 Tender Document seeks tender submission by following two Tender Online System, in two parts i.e. First part - “Technical Bid (EMD & Technical documents) – **Envelope-A**” and second part - “Financial Bid” – **Envelope-C**
- 21.3 The bidder should also submit physical copy of Technical Bid duly typed and signed by the bidder’s authorized signatory who has been duly authorized to bind the bidder to the contract. The letter of authorization shall be by a written power of attorney, which shall also be furnished along with the tender. The Bidder shall submit original EMD along with physical copy of all letters, certificates, testimonials, forms etc. (self-certified) including original catalogue (s) of model quoted as uploaded online on or before the closing date of submission of tender document..
- 21.3 The scanned copy of the earnest money instrument (bank guarantee) should be uploaded online during bid submission
- 21.4 All the pages of the physical Technical Bid shall be duly signed at the appropriate places including printed literature, if any. The tender shall not contain any erasure or overwriting, except as necessary to correct any error made by the bidder and, if there is any such correction; the same shall be initialled by the person(s) signing the tender.
- 21.5 The bidder is to seal the physical Technical Bid in an envelope and writing the address of the Tender Inviting Authority and the tender reference number on the envelopes. The sentence “NOT TO BE OPENED” before _____ (The bidder is to put the date & time of tender opening) are to be written on this envelope. If the envelope is not sealed and marked properly as above, the Tender Inviting Authority will not assume any responsibility for its misplacement, premature opening, late opening etc.

D. SUBMISSION OF TENDERS

22. Submission of Tenders

- 22.1 Unless otherwise specified, tenders will be submitted online as per the Key Dates in the Notice published on the website <http://www.mpeproc.gov.in> For online bidding scan copy of needful documents in proper resolution should be uploaded online. Bidders are required to sign their bids online using Class III - Digital Certificates only, Contractors are advised to obtain the same at the earliest. For further information, Contractors are requested to read Users Guide available in M.P. Government’s E-Procurement Portal <https://www.mpeproc.gov.in/>. The bidders may also contact E-Procurement Cell / Helpdesk at Toll Free No. 1800-258-8684 and e-mail: eproc_helpdesk@mepsdc.gov.in
- 22.2 Physical technical bid (without price bid) along with original EMD in an envelope super scribing “Tender No. _____ for supply of _____” due on _____ [due date and time of submission of Technical Bid]” should be addressed and submitted on or before the date & time of online opening of technical bid and shall be submitted to “Managing Director, Madhya Pradesh Public Health Services Corporation Limited, 1st Floor OILFED BUIDING, Arera Hills, Bhopal – 462 011. The officer receiving the physical documents shall give the bidder an official receipt duly signed with date and time.
- 22.4 The Bidders must ensure that they deposit their physical technical bid along with original EMD not later than the closing time and date specified for submission of tenders. In the event of the specified date for submission of tender falls on / is subsequently declared a holiday or closed day for the Tender Inviting Authority, the physical technical bid and original EMD will be received up to the appointed time on the next working day.

23. Late Tender

- 23.1 This is an e-tender and all documents including price details are to be submitted on the mentioned portal. However, physical copy of Techno-Commercial bid is required to be submitted which shall be accepted on or before the time as mentioned at Section I, Sub-section (2). Physical copy shall be accepted before the date and time of online tender opening but not beyond that.

24. Alteration and Withdrawal of Tender

- 24.1 The bidder, after submitting its tender online, is not permitted to alter / modify its tender.
24.2 No tender should be withdrawn after the deadline for submission of tender and before expiry of the tender validity period. If a bidder withdraws the tender during this period, it will result in forfeiture of the earnest money furnished by the bidder in its tender.

E. TENDER OPENING

25. Opening of Tenders

- 25.1 The **Technical Bid (Envelope-A)** shall be opened online at the first instance, at the prescribed time and date as indicated in NIT followed by opening of physical copy of the technical bids at the specified date and time and at the specified place as indicated in the NIT. In case the specified date of tender opening falls on / is subsequently declared a holiday or closed day for the Tender Inviting Authority, the tenders will be opened at the appointed time and place on the next working day.
- 25.2 Authorized representatives of the bidders, who have submitted tenders on time may attend the tender opening provided they bring with them letters of authority from the corresponding bidders. The tender opening official(s) will prepare a list of the representatives attending the tender opening. The list will contain the representatives' names, signatures, e-mail Id, contact no. and corresponding Bidders' names and addresses.
- 25.3 During the Technical Bid opening, the Bid opening official(s) will read the salient features of the bids like brief description of the goods offered, delivery period, Earnest Money Deposit and any other special features of the tenders, as deemed fit by the tender opening official(s).
- 25.4 Thereafter, in the second stage, the **Financial Bid (Envelope-C)** of only the technically acceptable offers (as decided in the first stage) shall be opened for further scrutiny and evaluation on a date notified online after the evaluation of the Technical bid. The prices of the goods offered by the technically qualified bidders shall be read out and recorded, and provisional rates shall be uploaded on website of the Purchaser and e-procurement portal.

F. SCRUTINY AND EVALUATION OF TENDERS

26. Basic Principles

- 26.1 Tenders will be evaluated on the basis of the terms & conditions already incorporated in the TE document and the terms & conditions mentioned therein. No new condition will be brought in while scrutinizing and evaluating the tenders. TIA will not enter into any correspondence on the issue.

27. Preliminary Scrutiny of Tenders

- 27.1 The Tender Inviting Authority will examine the Tenders to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed stamped and whether the Tenders are generally in order.
- 27.2 Prior to the detailed opening and evaluation of Price Tenders, pursuant to GIT Clause 34, the Tender Inviting Authority will determine the substantial responsiveness of each Tender to the TE Document. For purposes of these clauses, a substantially responsive Tender is one, which conforms to all the terms and conditions of the TE Documents without material deviations. Deviations from, or

objections or reservations to critical provisions such as those concerning Performance Security (GCC Clause 5), Warranty (GCC Clause 15), EMD (GIT Clause 19), Taxes & Duties (GCC Clause 20), Force Majeure (GCC Clause 26) and Applicable law (GCC Clause 31) will be deemed to be a material deviation. The Tender Inviting Authority's determination of a Tender's responsiveness is to be based on the contents of the tender itself without recourse to extrinsic evidence.

- 27.3 If a Tender is not substantially responsive, it will be rejected by the Tender Inviting Authority and cannot subsequently be made responsive by the Bidder by correction of nonconformities.
- 27.4 The tenders will be scrutinized to determine whether they are complete and meet the essential and important requirements, conditions etc. as prescribed in the Tender Documents. The tenders, which do not meet the basic requirements, are liable to be treated as non – responsive and will be summarily ignored.
- 27.5 The following are some of the important aspects, for which a tender shall be declared non – responsive and will be summarily ignored;
- (i) Tender form as per Section X (signed and stamped) not uploaded and physically not submitted
 - (ii) Tender validity is shorter than the required period.
 - (iii) Required EMD (Amount etc.) have not been provided.
 - (iv) Bidder has not agreed to give the required performance security.
 - (v) Goods offered are not meeting the tender enquiry specification.
 - (vi) Manufacturer's Authorisation Certificate not enclosed by a bidder who is Importer/Dealer (if Importer/Dealer(s) are allowed to quote by the TIA)
 - (vii) Bidder has not agreed to other essential condition(s) specially incorporated in the tender enquiry like terms of payment, liquidated damages clause, warranty clause, dispute resolution mechanism applicable law.
 - (viii) Poor/ unsatisfactory past performance.
 - (ix) Bidders who stand deregistered/banned/blacklisted by any Govt. Authorities.
 - (x) Bidder is not eligible as per GIT Clauses 5.1 & 17.1.
 - (xi) Bidder has not quoted for the entire quantity as specified in the List of Requirements in the quoted schedule.

Note: The above mentioned aspects are descriptive and not exhaustive and a tender can be declared non-responsive for non-fulfilment of any essential condition culled out in the instant document in the considered view of the Tender Inviting Authority and the opinion of the Tender Inviting Authority shall be final and conclusive.

28. Minor Infirmary/Irregularity/Non-Conformity

- 28.1 If during the preliminary examination, the Tender Inviting Authority find any minor informality and/or irregularity and/or non-conformity in a tender, the Tender Inviting Authority may waive the same provided it does not constitute any material deviation and financial impact and, also, does not prejudice or affect the ranking order of the bidders. Wherever necessary, the Tender Inviting Authority will convey its observation on such 'minor' issues to the bidder by registered/speed post etc. asking the bidder to respond by a specified date. If the bidder does not reply by the specified date or gives evasive reply without clarifying the point at issue in clear terms, that tender will be liable to be ignored.

29 Discrepancies in Prices

- 29.1 If, in the price structure quoted by a bidder, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless the Tender Inviting Authority feels that the bidder has made a mistake in placing the decimal point in the unit price, in which case the total price as quoted shall prevail over the unit price and the unit price corrected accordingly.
- 29.2 If there is an error in a total price, which has been worked out through addition and/or subtraction of subtotals, the subtotals shall prevail and the total corrected; and
- 29.3 If there is a discrepancy between the amount expressed in words and figures, the amount in words shall prevail, subject to sub clause 29.1 and 29.2 above.

29.4 If, as per the judgement of the Tender Inviting Authority, there is any such arithmetical discrepancy in a tender, the same will be suitably conveyed to the bidder by registered / speed post / e-mail. If the bidder does not agree to the observation of the Tender Inviting Authority, the tender is liable to be ignored.

30. Discrepancy between online tender documents and physical documents

30.1 In case any discrepancy is observed between the online documents, text etc. and that in the physically submitted documents, text etc. of the same tender set then online documents, text etc. shall prevail. Here also, the Tender Inviting Authority will convey its observation suitably to the bidder by registered / speed post / e-mail and, if the bidder does not accept the Tender Inviting Authority's observation, that tender will be liable to be ignored.

31. Qualification Criteria

31.1 Tenders of the bidders, who do not meet the required Qualification Criteria prescribed in Section IX, will be treated as non - responsive and will not be considered further.

32. Conversion of tender currencies to Indian Rupees

32.1 In case the TE document permits the bidders to quote their prices in different currencies, all such quoted prices of the respective bidders will be converted to a single currency viz. Indian Rupees for the purpose of equitable comparison and evaluation considering "SBI selling exchange rate" as on the due date of opening of Price Bids.

1. Deleted

33. Schedule-wise Evaluation

33.1 In case the List of Requirements contains more than one schedule, the responsive tenders will be evaluated and compared separately for each schedule. The tender for a schedule will not be considered if the complete requirements prescribed in that schedule are not included in the tender.

34. Comparison of Tenders

34.1 Unless mentioned otherwise in Section – III – Special Instructions to Bidders and Section – VI – List of Requirements, the comparison of the responsive tenders shall be carried out on Delivery Duty Paid (DDP) consignee site basis.

34.2 The quoted turnkey price (if applicable) and CMC prices (if asked) will also be added for comparison/ranking purpose for evaluation. The Net Present value (NPV) of the Comprehensive Annual Maintenance charges (CMC) quoted for every year after warranty period shall be added to the bid price for evaluation and will be calculated after discounting the quoted price by a discounting factor of 10% per annum.

35. Additional Factors and Parameters for Evaluation and Ranking of Responsive Tenders

35.1 Further to GIT Clause 34 above, the Tender Inviting Authority's evaluation of a tender will include and take into account the following:

i) In the case of goods manufactured in India or goods of foreign origin already located in India, sales tax & other similar taxes and excise duty & other similar duties, Service Tax, Works Contract Tax etc which will be contractually payable (to the bidder), on the goods if a contract is awarded on the bidder; and

35.2 The Tender Inviting Authority's evaluation of tender will also take into account the additional factors, if any, incorporated in SIT in the manner and to the extent indicated therein.

35.3 The Tender Inviting Authority reserves the right to give the price preference to small-scale sectors etc. and purchase preference to central public sector undertakings as per the instruction in vogue while evaluating, comparing and ranking the responsive tenders.

36. Bidder's capability to perform the contract

36.1 The Tender Inviting Authority, through the above process of tender scrutiny and tender evaluation will determine to its satisfaction whether the bidder, whose tender has been determined as the lowest evaluated responsive tender, is eligible, qualified and capable in all respects to perform the contract satisfactorily. If, a Bidder is responsive for more than one schedule, then, such determination will be made cumulative.

36.2 The above-mentioned determination will, inter alia, take into account the bidder's financial, technical and production capabilities for satisfying all the requirements of the Tender Inviting Authority as incorporated in the Tender Document. Such determination will be based upon scrutiny and examination of all relevant data and details submitted by the bidder in its tender as well as such other allied information as deemed appropriate by the Tender Inviting Authority.

37. Contacting the Tender Inviting Authority

37.1 From the time of submission of tender to the time of awarding the contract, if a bidder needs to contact the Tender Inviting Authority for any reason relating to this tender enquiry and / or its tender, it should do so only in writing.

37.2 In case a bidder attempts to influence the Tender Inviting Authority in the Tender Inviting Authority's decision on scrutiny, comparison & evaluation of tenders and awarding the contract, the tender of the bidder shall be liable for rejection in addition to appropriate administrative and coercive actions being taken against that bidder, as deemed fit by the Tender Inviting Authority.

G. AWARD OF CONTRACT

38. Tender Inviting Authority's Right to accept any tender and to reject any or all tenders

38.1 The Tender Inviting Authority reserves the right to accept in part or in full any tender or reject any or more tender(s) without assigning any reason or to cancel the tendering process and reject all tenders at any time prior to award of contract, without incurring any liability, whatsoever to the affected bidder or bidders.

39. Award Criteria

39.1 Subject to GIT clause 38 above, the contract will be awarded to the lowest evaluated responsive bidder decided by the Tender Inviting Authority in terms of GIT Clause 36. The contract shall be valid for one year from the date of signing of agreement unless otherwise extended by TIA. The contract could be extended for a maximum period of another 3 months on the same terms and conditions and on the same rates.

40. Variation of Quantities at the Time of Award

40.1 Quantities mentioned in the schedule (s) in the "List of Requirements" in the bid documents, are to be procured by the Purchaser/Ordering Authority defined at GIT Clause 1.2. In unforeseen/exceptional circumstances, order quantities may increase or decrease and decision in this regard by TIA shall be final and binding to the bidder. The Tender Inviting Authority or other Ordering Authorities can place more orders during currency of contract (which is one year from the date of signing of agreement) and the supplier has to supply the material at the same rates and conditions of the contract during the contract period. Beyond receipt & supply of 125% (of the quantity as mentioned in schedule of requirements) quantity of goods, the contract shall be over irrespective of completion of one year and no more orders can be placed to the supplier by Ordering Authorities.

41. Intimation Letter to successful bidder / Notification of Award

- 41.1 Before expiry of the tender validity period, the Tender Inviting Authority will notify the successful bidder(s) in writing, only by registered / speed post or by e-order (to be confirmed by registered / speed post) that its tender for goods & services, which have been selected by the Tender Inviting Authority, has been accepted, also briefly indicating therein the essential details like description, specification and quantity of the goods & services and corresponding prices accepted. The successful bidder must furnish to the Tender Inviting Authority the required performance security within 21 days along with the contract agreement from the date of dispatch of this notification, failing which the EMD will be forfeited and the award will be cancelled. Relevant details about the performance security have been provided under GCC Clause 5 under Section IV.
- 41.2 The Notification of Award shall constitute the conclusion of the Contract.
- 41.3 The rates quoted and accepted will be binding on the bidder for full contract period of one year from the date of signing of agreement and any increase in price will not be entertained till the completion of this contract period. However, contract can be extended by another 3 months, before the expiry of annual rate contract, with the same terms and conditions of the rate contract. Accordingly this clause will be applicable for all orders placed during the contract period.
- 41.4 All supply orders shall be placed by the Ordering Authority (ies). All terms and conditions of supply order (s) shall be governed by the conditions of this tender document. Relevant details about the performance security have been provided under GCC Clause 5 under Section IV.

42. Issue of Contract

- 42.1 Promptly after notification of award, the Tender Inviting Authority will mail the contract form (as per Section XV) duly completed and signed, in duplicate, to the successful bidder by registered / speed post.
- 42.2 Within twenty one days from the date of the Notification of Award (at GIT Clause 41 above) , the successful bidder shall return the original copy of the contract, duly signed and dated, to the Tender Inviting Authority by registered / speed post.

43. Non-receipt of Performance Security and Contract by the Tender Inviting Authority/Ordering Authority

- 43.1 Failure of the successful bidder in providing performance security and / or returning contract copy duly signed in terms of GIT clauses 41 and 42 above shall make the bidder liable for forfeiture of its EMD and, also, for further actions by the Tender Inviting Authority against it as per the GCC Clause 24.

44. Return of E M D

- 44.1 The earnest money of the successful bidder and the unsuccessful bidders will be returned to them without any interest, whatsoever, in terms of GIT Clause 19.6.

45. Publication of Tender Result

- 45.1 The name and address of the successful bidder(s) receiving the contract(s) will be mentioned in the notice board/bulletin/web site of the Tender Inviting Authority.

46. Corrupt or Fraudulent Practices

- 46.1 It is required by all concerned namely the Consignee/Bidders/Suppliers etc to observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the Tender Inviting Authority: -
- (a) defines, for the purposes of this provision, the terms set forth below 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 misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Tender Inviting Authority, and includes collusive practice among Bidders (prior to or after Tender submission) designed to

- establish Tender prices at artificial non-competitive levels and to deprive the Tender Inviting Authority of the benefits of free and open competition;
- (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party [“parties” refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, non competitive level].
 - (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party (a “party” refers to a participant in the procurement process or contract execution).
- (b) will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent or collusive practices in competing for the contract in question;
 - (c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract by the Tender Inviting Authority if it at any time determines that the firm/ company has engaged in corrupt or fraudulent or collusive practices in competing for, or in executing the contract.

SECTION - III
SPECIAL INSTRUCTIONS TO BIDDERS
(SIT)

Sl. No.	GIT Clause No.	Topic	SIT Provision
A	1 to 7	Preamble	No Change
B	8 to 10	TE documents	No Change
C	11 to 21	Preparation of Tenders	No Change
D	22 to 24	Submission of Tenders	No Change
E	25	Tender Opening	No Change
F	26 to 37	Scrutiny and Evaluation of Tenders	No Change
G	38 to 45	Award of Contract	No Change

SECTION-III
SPECIAL INSTRUCTIONS TO BIDDERS
(SIT)

The following Special Instructions to Bidders will apply for this purchase. These special instructions will modify/substitute/supplement the corresponding General Instructions to Bidders (GIT) incorporated in Section II. The corresponding GIT clause numbers have also been indicated in the text below:

In case of any conflict between the provision in the GIT and that in the SIT, the provision contained in the SIT shall prevail.

A Preamble

No Change

B Tender Documents

No Change

C Preparation of Tenders

No Change

D Submission of Tenders

No Change

E Tender Opening

No Change

F Scrutiny and Evaluation of Tenders

No Change

G Award of Contract

No Change

SECTION - IV
GENERAL CONDITIONS OF CONTRACT (GCC)
TABLE OF CLAUSES

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SECTION-IV

GENERAL CONDITIONS OF CONTRACT (GCC)

1. Application

- 1.1 The General Conditions of Contract incorporated in this section shall be applicable for this purchase to the extent the same are not superseded by the Special Conditions of Contract prescribed under Section V, List of requirements under Section VI and Technical Specification under Section VII of this document.

2. Use of contract documents and information

- 2.1 The supplier shall not, without the Tender Inviting Authority's prior written consent, disclose the contract or any provision thereof including any specification, drawing, sample or any information furnished by or on behalf of the Tender Inviting Authority in connection therewith, to any person other than the person(s) employed by the supplier in the performance of the contract emanating from this Tender Document. Further, any such disclosure to any such employed person shall be made in confidence and only so far as necessary for the purposes of such performance for this contract.
- 2.2 Further, the supplier shall not, without the Tender Inviting Authority's prior written consent, make use of any document or information mentioned in GCC sub-clause 2.1 above except for the sole purpose of performing this contract.
- 2.3 Except the contract issued to the supplier, each and every other document mentioned in GCC sub-clause 2.1 above shall remain the property of the Tender Inviting Authority and, if advised by the Tender Inviting Authority, all copies of all such documents shall be returned to the Tender Inviting Authority on completion of the supplier's performance and obligations under this contract.

3. Intellectual Property Rights

- 3.1 The supplier shall, at all times, indemnify and keep indemnified the Tender Inviting Authority, free of cost, against all claims which may arise in respect of goods & services to be provided by the supplier under the contract for infringement of any intellectual property rights or any other right protected by patent, registration of designs or trademarks. In the event of any such claim in respect of alleged breach of patent, registered designs, trademarks etc. being made against the Tender Inviting Authority, the Tender Inviting Authority shall notify the supplier of the same and the supplier shall, at his own expenses take care of the same for settlement without any liability to the Tender Inviting Authority.

4. Country of Origin

- 4.1 All goods and services to be supplied and provided for the contract shall have the origin in India or in the countries with which the Government of India has trade relations.
- 4.2 The word "origin" incorporated in this clause means the place from where the goods are mined, cultivated, grown, manufactured, produced or processed or from where the services are arranged.
- 4.3 The country of origin may be specified in the Price Schedule

5. Performance Security

- 5.1 Within twenty one (21) days from date of the issue of intimation letter/ notification of award by the Tender Inviting Authority/Ordering Authority, the supplier, shall furnish performance security to the Tender Inviting Authority for an amount equal to ten percent (10%) of the contract value, valid up forty-five (45) days after the date of completion of all contractual obligations by the supplier, including the warranty obligations.

- 5.2 The Performance security shall be denominated in Indian Rupees and shall be in the form of Bank Guarantee issued by a Scheduled bank in India or abroad, in the prescribed form as provided in section XIV of this document in favour of the Purchaser/Consignee. The validity of the Bank Guarantee will be for a period up to sixty (60) days beyond Warranty Period.
- 5.3 In the event of any failure /default of the supplier with or without any quantifiable loss to the government including furnishing of Bank Guarantee for CMC security as per Proforma in Section XIV, the amount of the performance security is liable to be forfeited. The Purchaser/Consignee may do the needful to cover any failure/default of the supplier with or without any quantifiable loss to the Government.
- 5.4 In the event of any amendment issued to the contract, the supplier shall, within fifteen (15) days of issue of the amendment, furnish the corresponding amendment to the Performance Security (as necessary), rendering the same valid in all respects in terms of the contract, as amended.
- 5.5 The purchaser/consignee may enter into AMC/CMC as per the 'Contract Form – B' in Section XV with Purchaser/respective consignees, 3 (three) months prior to the completion of Warranty Period. The CMC may commence from the date of expiry of the Warranty Period.
- 5.6 Subject to GCC sub – clause 5.2 above, the Purchaser / Consignee will release the Performance Security without any interest to the supplier on completion of the supplier's all contractual obligations including the warranty obligations. If Purchaser / Consignee doesn't enter into AMC/CMC with the supplier in spite of repeated reminders by the supplier, Tender Inviting Authority is bound to release the Performance Security within six months after its due date of release.

6. Technical Specifications and Standards

- 6.1 The Goods & Services to be provided by the supplier under this contract shall conform to the technical specifications and quality control parameters mentioned in 'Technical Specification' and 'Quality Control Requirements' under Sections VII and VIII of this document.

7. Packing and Marking

- 7.1 The packing for the goods to be provided by the supplier should be strong and durable enough to withstand, without limitation, the entire journey during transit including transshipment (if any), rough handling, open storage etc. without any damage, deterioration etc. As and if necessary, the size, weights and volumes of the packing cases shall also take into consideration, the remoteness of the final destination of the goods and availability or otherwise of transport and handling facilities at all points during transit up to final destination as per the contract.
- 7.2 The quality of packing, the manner of marking within & outside the packages and provision of accompanying documentation shall strictly comply with the requirements as provided in Technical Specifications and Quality Control Requirements under Sections VII and VIII and in SCC under Section V. In case the packing requirements are amended due to issue of any amendment to the contract, the same shall also be taken care of by the supplier accordingly.
- 7.3 Packing instructions:

Unless otherwise mentioned in the Technical Specification and Quality Control Requirements under Sections VII and VIII and in SCC under Section V, the supplier shall make separate packages for each ordering authority/consignee (in case there is more than one consignee mentioned in the contract) and mark each package on three sides with the following with indelible paint of proper quality:

- a. Contract number and date
- b. Brief description of goods including quantity
- c. Packing list reference number including relevant code numbers of the accessories
- d. Country of origin of goods
- e. Ordering Authority/consignee's name and full address including contact numbers and

f. Supplier's name and address including contact numbers

8. Inspection, Testing and Quality Control

- 8.1 Before despatch of the ordered goods, supplier, at its own cost, has to carry out pre-despatch inspection of the ordered goods either by empanelled inspection agency (ies) of CE/US FDA 21 CFR compliance certifying body (ies) through ASTM standards. Before submitting the product for inspection through empanelled agency (ies), the manufacturer must provide test certificate detailing in house tests carried out and the product's compliance. The test certificate must include performance parameters of all sub-systems and components.
- 8.2 The Tender Inviting Authority (TIA) and/or its nominated representative(s) may, without any extra cost to the Tender Inviting Authority, inspect and/or test the ordered goods, its manufacturing line and the related services to confirm their conformity to the contract specifications and other quality control details incorporated in the contract. The TIA shall inform the supplier in advance, in writing, the TIA's programme for such inspection and, also the identity of the officials to be deputed for this purpose. The cost towards the transportation, boarding & lodging will be borne by the Tender Inviting Authority and/or its nominated representative(s).
- 8.3 The Technical Specification and Quality Control Requirements incorporated in the contract shall specify what inspections and tests are to be carried out and, also, where and how they are to be conducted. If such inspections and tests are conducted in the premises of the supplier or its subcontractor(s), all reasonable facilities and assistance, including access to relevant drawings, design details and production data, shall be furnished by the supplier to the Tender Inviting/ Ordering Authority's inspector at no charge to the Tender Inviting Authority/ Ordering Authority.
- 8.4 Tender Inviting Authority or Ordering Authority or their representative shall also inspect and/or test the ordered goods and the related services to confirm their conformity to the contract specifications and other quality control details incorporated in the contract at the site of final destination (at consignee's premises).
- 8.5 If during such inspections and tests the contracted goods fail to conform to the required specifications and standards, the Tender Inviting/Ordering Authority's inspector may reject them and the supplier shall either replace the rejected goods or make all alterations necessary to meet the specifications and standards, as required, free of cost to the Tender Inviting/Ordering Authority and resubmit the same to the Tender Inviting/Ordering Authority's inspector for conducting the inspections and tests again.
- 8.6 In case the contract/supply order stipulates pre-despatch inspection of the ordered goods at supplier's premises by Tender Inviting Authority, the supplier shall put up the goods for such inspection to the Tender Invitee's inspector well ahead of the contractual delivery period, so that the Tender Inviting Authority's inspector is able to complete the inspection within the contractual delivery period.
- 8.7 If the supplier tenders the goods to the Tender Invitee's inspector for inspection at the last moment without providing reasonable time to the inspector for completing the inspection within the contractual delivery period, the inspector may carry out the inspection and complete the formality beyond the contractual delivery period at the risk and expense of the supplier. The fact that the goods have been inspected after the contractual delivery period will not have the effect of keeping the contract alive and this will be without any prejudice to the legal rights and remedies available to the Tender Inviting Authority under the terms & conditions of the contract.
- 8.8 The Tender Inviting Authority's/consignee's contractual right to inspect, test and, if necessary, reject the goods after the goods' arrival at the final destination shall have no bearing of the fact that the goods have previously been inspected and cleared by Tender Inviting/Ordering Authority's inspector during pre-despatch inspection mentioned above.
- 8.9 Goods accepted by the Tender Inviting Authority/Ordering Authority and/or its inspector at initial inspection and in final inspection in terms of the contract shall in no way dilute Tender Inviting

Authority's/consignee's right to reject the same later, if found deficient in terms of the warranty clause of the contract, as incorporated under GCC Clause 15.

9. Terms of Delivery

9.1 Goods shall be delivered by the supplier in accordance with the terms of delivery specified in the contract.

10. Transportation of Goods

10.1 Instructions for transportation of domestic goods including goods already imported by the supplier under its own arrangement:

In case no instruction is provided in this regard in the SCC, the supplier will arrange transportation of the ordered goods as per its own procedure.

10.2 Instructions for transportation of goods offered from abroad:

Not applicable

11. Insurance:

11.1 Unless otherwise instructed in the SCC, the supplier shall make arrangements for insuring the goods against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the following manner:

- i) in case of supply of domestic goods including goods already imported in India, on Consignee site basis, the supplier shall be responsible till the entire stores contracted for arrival in good condition at destination. The transit risk in this respect shall be covered by the Supplier by getting the stores duly insured an amount equal to 110% of the value of the goods from warehouse to warehouse (consignee site) on all risk basis. The insurance cover shall be obtained by the Supplier and should be valid till 3 months after the receipt of goods by the Consignee.
- ii) in case of supply of imported goods on CIP named port of destination basis, the additional insurance (local transportation and storage) would be borne by the supplier from the port of entry to the consignee site for a period including 3 months beyond date of delivery for an amount equal to 110% of the overall expenditure to be incurred by the purchaser from warehouse to warehouse (consignee site) on all risk basis.
- iii) If the equipment is not commissioned and handed over to the consignee within 3 months, the insurance will be got extended by the supplier at their cost till the successful installation, testing, commissioning and handing over of the goods to the consignee. In case the delay in the installation and commissioning is due to handing over of the site to the supplier by the consignee, such extensions of the insurance will still be done by the supplier, but the insurance extension charges at actual will be reimbursed.

12. Consumables & Spare parts

12.1 Unless specified in the Technical Specifications/List of Requirements and in the resultant contract, the supplier shall supply/provide any or all of the following materials, information etc. pertaining to consumables/ spare parts manufactured and/or supplied by the supplier:

- a) All equipment as specified in the List of Requirement should be able to operate with standard quality consumables available in open market. The bidder shall specify it in its bid and shall provide standard specifications in sufficient details of all consumables required to operate the equipment to enable the purchaser to try for these consumables in the open market. It is the purchaser's prerogative to purchase standard quality consumables/spare parts from any source available in the market and this act shall not relieve the supplier from any contractual obligation including warranty & AMC/CMC obligations.

- b) The spare parts as selected by the Tender Inviting Authority/Ordering Authority to be purchased from the supplier, subject to the condition that such purchase of the spare parts shall not relieve the supplier of any contractual obligation including warranty obligations; and
- c) In case the production of the spare parts is discontinued the supplier shall give:
 - i) Sufficient advance notice to the Tender Inviting Authority/Ordering Authority before such discontinuation to provide adequate time to the Tender Inviting/Ordering Authority to purchase the required spare parts etc., and
 - ii) Immediately following such discontinuation, providing the Tender Inviting Authority/Ordering Authority, free of cost, the designs, drawings, layouts and specifications of the spare parts, as and if requested by the Tender Inviting Authority/Ordering Authority.

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

13. Incidental services

13.1 Subject to the stipulation, if any, in the SCC (Section – V), List of Requirements (Section – VI) and the Technical Specification (Section – VII), the supplier shall be required to perform the following services.

- a. Inform pre-requisite for installation & commissioning such as civil/electrical/miscellaneous requirement well in advance to the ordering authority.
- b. Installation & commissioning, Supervision and Demonstration of the goods
- c. Providing required jigs and tools for assembly, minor civil works required for the completion of the installation.
- d. Providing Standard Operating Procedure detailing operational guidelines, limitations, precautions, routine maintenance and Do's & Don'ts.
- e. The supplier shall help in preparing a log-book.
- f. Training of Consignee's Doctors, Staff, operators etc. for operating and maintaining the goods
- g. Supplying required number of operation & maintenance manual for the goods

14. Distribution of Dispatch Documents for Clearance/Receipt of Goods

The supplier shall send all the relevant despatch documents well in time to the Tender Inviting Authority/Ordering Authority/Consignee to enable the Tender Inviting Authority/Ordering Authority/Consignee clear or receive (as the case may be) the goods in terms of the contract.

Unless otherwise specified in the SCC, the usual documents involved and the same to be followed in general for this purpose are as follows:

- A) For Domestic Goods, including goods already imported by the supplier under its own arrangement:

Within 24 hours of despatch, the supplier shall notify the Tender Inviting Authority, Ordering Authority/consignee, and others concerned if mentioned in the contract, the complete details of despatch and also supply the following documents to them by registered post / speed post (or as instructed in the contract) keeping in view that the notification should reach the concerned authority not on a closed day/public holiday:

- (i) four copies of supplier's invoice showing contract number, goods description, quantity, unit price and total amount;
- (ii) Consignee Receipt Certificate as per Section XVI in original issued by the authorized representative of the consignee;
- (iii) Two copies of packing list identifying contents of each package;
- (iv) Inspection certificate issued by the Inspection agency;
- (v) Certificate of origin;
- (vi) Insurance Certificate as per GCC Clause 11.
- (vii) Manufacturers/Supplier's warranty certificate & In-house inspection certificate.

B) For goods imported from abroad:

Not applicable

15. Warranty and CMC

- 15.1 The supplier warrants comprehensively that the goods supplied under the contract is new, unused and incorporate all recent improvements in design and materials unless prescribed otherwise by the Tender Inviting Authority in the contract. The supplier further warrants that the goods supplied under the contract shall have no defect arising from design, materials (*except when the design adopted and / or the material used are as per the Tender Inviting Authority's/Consignee's specifications*) or workmanship or from any act or omission of the supplier, that may develop under normal use of the supplied goods under the conditions prevailing in India.
- 15.2 The **warranty** shall remain valid for three years (36 months) from the date of installation & commissioning followed by CMC for a period of 3 (Three) Years for all the equipment after the goods or any portion thereof as the case may be, have been delivered to the final destination and installed and commissioned at the final destination and accepted by the Tender Inviting Authority/Ordering Authority in terms of the contract, unless specified otherwise in the SCC.
- a. No conditional warranty like mishandling, manufacturing defects etc. will be acceptable.
 - b. Warranty as well as Comprehensive Maintenance contract will be inclusive of all accessories and Turnkey work
 - c. Replacement and repair will be under taken for the defective goods.
 - d. Proper marking has to be made for all spares for identification like printing of installation and repair dates.
- 15.3 In case of any claim arising out of this warranty, the Tender Inviting Authority/Ordering Authority/Consignee shall promptly notify the same in writing to the supplier. The period of the warranty will be as per G.C.C clause number 15.2 above irrespective of any other period mentioned elsewhere in the bidding documents.
- 15.4 Upon receipt of such notice, the supplier shall, within 24 hours on a 24(hrs) X 7 (days) X 365 (days) basis respond to take action to repair or replace the defective goods or parts thereof, free of cost, at the ultimate destination. If any part is required to be replaced, the defective equipment should be made functional within 72 hours from the time of breakdown call to the supplier. The supplier shall take over the replaced parts/goods after providing their replacements and no claim, whatsoever shall lie on the Tender Inviting Authority/Ordering Authority for such replaced parts/goods thereafter. The penalty clause for non- rectification will be applicable as per tender conditions.
- 15.5 In the event of any rectification of a defect or replacement of any defective goods during the warranty period, the warranty for the rectified/replaced goods shall be extended to a further period of twenty four (24) months from the date such rectified / replaced goods starts functioning to the satisfaction of the Tender Inviting Authority.
- 15.6 If the supplier, having been notified, fails to respond to take action to repair or replace the defect(s) within 72 hours on a 24(hrs) X 7 (days) X 365 (days) basis, the Tender Inviting Authority may proceed to take such remedial action(s) as deemed fit by the Tender Inviting Authority/Ordering

Authority , at the risk and expense of the supplier and without prejudice to other contractual rights and remedies, which the Tender Inviting Authority may have against the supplier.

- 15.7 During Warranty period, the supplier is required to visit at each consignee's site at least once in 4 months commencing from the date of the installation/commissioning for preventive maintenance of the goods and any no. of breakdown calls. The supplier shall also carry out calibration of equipment during warranty period as per manufacturer's guidelines.
- 15.8 The Tender Inviting Authority may enter into Annual Comprehensive Maintenance Contract (CMC) or AMC with the Supplier for the next three **years** after completion of warranty period. CMC is an extension of warranty period. All conditions w.r.t. replacement of parts and accessories shall also be applicable during CMC period. Respective Ordering Authorities shall pay CMC charges at the accepted rates.
- 15.9 The supplier and the CMC provider shall ensure continued supply of the spare parts for the machines and equipment supplied by them to the Tender Inviting Authority for 10 years from the date of installation and handing over.
- 15.10 The Supplier and the CMC Provider shall always accord most favoured client status to the Tender Inviting Authority vis-à-vis its other Clients/Tender Inviting Authority of its equipment/machines/goods etc. and shall always give the most competitive price for its machines/equipment supplied to the Tender Inviting Authority/Ordering Authority/Consignee.
- 15.12 During CMC period, the supplier is required to visit at each consignee's site at least once in 4 months commencing from the date of entering into CMC contract for preventive maintenance of the goods and any no. of breakdown calls. During CMC too, CMC provider shall calibrate the equipment as per manufacturer's guidelines.
- 15.11 If the supplier, having been notified during CMC period, fails to respond to take action to repair or replace the defect(s) within 72 hours on a 24(hrs) X 7 (days) X 365 (days) basis, the Tender Inviting Authority shall, without prejudice to other rights and remedies available to the Tender Inviting Authority under the contract, impose liquidated damages, a sum equivalent to 0.1% per day of delay up to 7 days, 0.2% per day of delay up to 14 days and 0.25% per day of delay beyond 14 days of equipment purchase cost.

16. Assignment

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

17. Sub Contracts

- 17.1 The Supplier shall notify the Tender Inviting Authority in writing of all sub contracts awarded under the contract if not already specified in its tender. Such notification, in its original tender or later, shall not relieve the Supplier from any of its liability or obligation under the terms and conditions of the contract. Sub contracts shall not be inconsistent with the terms of the tender/contract agreement.
- 17.2 Sub contracts shall also comply with the provisions of GCC Clause 4 ("Country of Origin").

18. Modification of contract

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

- a) Specifications, drawings, designs etc. where goods to be supplied under the contract are to be specially manufactured for the Tender Inviting Authority,
- b) Mode of packing,
- c) Incidental services to be provided by the supplier
- d) Mode of despatch,
- e) Place of delivery, and
- f) Any other area(s) of the contract, as felt necessary by the Tender Inviting Authority depending on the merits of the case.

18.2 In the event of any such modification/alteration causing increase or decrease in the cost of goods and services to be supplied and provided, or in the time required by the supplier to perform any obligation under the contract, an equitable adjustment shall be made in the contract price and/or contract delivery schedule, as the case may be, and the contract amended accordingly. If the supplier doesn't agree to the adjustment made by the Tender Inviting Authority/Ordering Authority, the supplier shall convey its views to the Tender Inviting Authority/Ordering Authority within twenty-one days from the date of the supplier's receipt of the Tender Inviting Authority's/Consignee's amendment / modification of the contract.

19. Prices

19.1 Prices to be charged by the supplier for supply of goods and provision of services in terms of the contract shall not vary from the corresponding prices quoted by the supplier in its tender and incorporated in the contract except for any price adjustment authorised in the SCC.

20. Taxes and Duties

20.1 Supplier shall be entirely responsible for all taxes, duties, fees, levies etc. incurred until delivery of the contracted goods to the Tender Inviting Authority. However, wherever Sales Tax is applicable, the same shall be paid as per governing rules of Government of Madhya Pradesh.

20.2 Further instruction, if any, shall be as provided in the SCC.

21. Terms and Mode of Payment

21.1 Payment Terms

Payment shall be made subject to recoveries, if any, by way of liquidated damages or any other charges as per terms & conditions of contract in the following manner:

A) Payment for Domestic Goods Or Foreign Origin Located Within India:

Payment shall be made in Indian Rupees as specified in the contract in the following manner:

a) On delivery and satisfactory installation:

100% payment of the contract price shall be paid on receipt of goods in good condition & satisfactory installation and upon the submission of the following documents:

- (i) Four copies of supplier's invoice showing contract number, goods description, quantity, unit price and total amount;
- (ii) Test certificate issued by In-house Quality control department;
- (iii) Consignee Receipt Certificate as per Section XVI in original issued by the authorized representative of the consignee;
- (iv) Two copies of packing list identifying contents of each package;
- (v) Inspection certificate issued by the Inspection agency as per clause GCC 8;
- (vi) Insurance Certificate as per GCC Clause 11;
- (vii) Certificate of origin.
- (viii) 'Final Acceptance Certificate' issued by consignee subject to recoveries, if any, either on account of non-rectification of defects/deficiencies not attended by the Supplier or otherwise.

B) Payment of Imported Goods:

Not applicable.

C) Payment of Turnkey, if any:

Turnkey payment will be made to the manufacturer's agent in Indian rupees indicated in the relevant Price Schedule or by Tender Inviting Authority and shall not be subject to further escalation / exchange variation. Payment shall be made in Indian Rupees to the supplier.

C) Payment for Annual Comprehensive Maintenance Contract Charges: The Ordering Authorities may enter into AMC/CMC with the supplier after expiry of warranty period.. The payment of AMC/CMC will be made on six monthly basis after satisfactory completion of maintenance services during said period, duly certified by the consignee.

- 21.2 The supplier shall not claim any interest on payments under the contract.
- 21.3 Where there is a statutory requirement for tax deduction at source, such deduction towards income tax and other tax as applicable will be made from the bills payable to the Supplier at rates as notified from time to time.
- 21.4 The payment shall be made in Indian currency only.
- 21.5 The supplier shall send its claim for payment in writing, when contractually due, along with relevant documents etc., duly signed with date, to the Tender Inviting/ respective consignees (as the case may be).
- 21.6 While claiming payment, the supplier is also to certify in the bill that the payment being claimed is strictly in terms of the contract and all the obligations on the part of the supplier for claiming that payment has been fulfilled as required under the contract.
- 21.7 While claiming reimbursement of duties, taxes etc. (like sales tax, excise duty, custom duty) from the Tender Inviting Authority/Ordering Authority/Consignee, as and if permitted under the contract, the supplier shall also certify that, in case it gets any refund out of such taxes and duties from the concerned authorities at a later date, it (the supplier) shall refund to the Tender Inviting Authority/Ordering Authority forthwith.
- 21.8 In case where the supplier is not in a position to submit its bill for the balance payment for want of receipted copies of Inspection Note from the consignee and the consignee has not complained about the non-receipt, shortage, or defects in the supplies made, balance amount will be paid by the paying authority without consignee's receipt certificate after three months from the date of the preceding part payment for the goods in question, subject to the following conditions:
- (a) The supplier will make good any defect or deficiency that the consignee (s) may report any time subsequently from the date of despatch of goods.
 - (b) Delay in supplies, if any, has been regularized.
 - (c) The contract price where it is subject to variation has been finalized.
 - (d) The supplier furnishes the following undertakings:

"I/We, _____ certify that I/We have not received back the Inspection Note duly receipted by the consignee or any communication from the Tender Inviting Authority or the consignee about non-receipt, shortage or defects in the goods supplied. I/We _____ agree to make good any defect or deficiency that the consignee may report any time subsequently till the expiry of warranty/CMC period (as the case may be) from the date of receipt of this balance payment.

22. Delay in the supplier's performance

- 22.1 The supplier shall deliver the goods and perform the services under the contract within the time schedule specified by the Tender Inviting Authority/Ordering Authority in the List of Requirements and as incorporated in the contract.
- 22.2 Subject to the provision under GCC clause 26, any unexcused delay by the supplier in maintaining its contractual obligations towards delivery of goods and performance of services shall render the supplier liable to any or all of the following sanctions:
- (i) imposition of liquidated damages,
 - (ii) forfeiture of its performance security and
 - (iii) termination of the contract for default.
- 22.3 If at any time during the currency of the contract, the supplier encounters conditions hindering timely delivery of the goods and performance of services, the supplier shall promptly inform the Tender Inviting Authority/Ordering Authority in writing about the same and its likely duration and make a request to the Tender Inviting Authority/Ordering Authority for extension of the delivery schedule accordingly. On receiving the supplier's communication, the Tender Inviting Authority/Ordering Authority shall examine the situation as soon as possible and, at its discretion, may agree to extend the delivery schedule, with or without liquidated damages for completion of supplier's contractual obligations by issuing an amendment to the contract.
- 22.4 When the period of delivery is extended due to unexcused delay by the supplier, the amendment letter extending the delivery period shall, inter alia contain the following conditions:
- (a) The Tender Inviting Authority/Ordering Authority shall recover from the supplier, under the provisions of the clause 23 of the General Conditions of Contract, liquidated damages on the goods and services, which the Supplier has failed to deliver within the delivery period stipulated in the contract.
 - (b) That no increase in price on account of any ground, whatsoever, including any stipulation in the contract for increase in price on any other ground and, also including statutory increase in or fresh imposition of customs duty, excise duty, sales tax/ VAT, Service Tax and Works Contract Tax or on account of any other tax or duty which may be levied in respect of the goods and services specified in the contract, which takes place after the date of delivery stipulated in the contract shall be admissible on such of the said goods and services as are delivered and performed after the date of the delivery stipulated in the contract.
 - (c) But nevertheless, the Tender Inviting Authority/Ordering Authority shall be entitled to the benefit of any decrease in price on account of reduction in or remission of customs duty, excise duty, sales tax/ VAT, Service Tax and Works Contract Tax or any other duty or tax or levy or on account of any other grounds, which takes place after the expiry of the date of delivery stipulated in the contract.
- 22.5 The supplier shall not dispatch the goods after expiry of the delivery period. The supplier is required to apply to the Tender Inviting Authority/Ordering Authority/Consignee for extension of delivery period and obtain the same before despatch. In case the supplier dispatches the goods without obtaining an extension, it would be doing so at its own risk and no claim for payment for such supply and / or any other expense related to such supply shall lie against the Tender Inviting Authority.

23. Liquidated damages

- 23.1 Subject to GCC clause 26, if the supplier fails to deliver any or all of the goods or fails to perform the services within the time frame(s) incorporated in the contract, the Tender Inviting Authority/Ordering Authority/Consignee shall, without prejudice to other rights and remedies available to the Tender Inviting Authority/Ordering Authority/Consignee under the contract, deduct from the contract price, as liquidated damages, a sum equivalent to 0.5% per week of delay or part thereof on delayed supply of goods and/or services until actual delivery or performance subject to a maximum of 10% of the contract price. Once the maximum is reached, the order stands cancelled and LD shall be imposed on the value of the unexecuted order. Security Deposit of such suppliers can also be forfeited besides

taking other penal action like debarment from participating in present and future tenders of the tender inviting authority etc.

During the above-mentioned delayed period of supply and / or performance, the conditions incorporated under GCC sub-clause 22.4 above shall also apply.

24. Termination for default

- 24.1 The Tender Inviting Authority/Ordering Authority , without prejudice to any other contractual rights and remedies available to it (the Tender Inviting Authority/Ordering Authority), may, by written notice of default sent to the supplier, terminate the contract in whole or in part, if the supplier fails to deliver any or all of the goods or fails to perform any other contractual obligation(s) within the time period specified in the contract, or within any extension thereof granted by the Tender Inviting Authority/Ordering Authority pursuant to GCC sub-clauses 22.3 and 22.4.
- 24.2 In the event of the Tender Inviting Authority/Ordering Authority terminates the contract in whole or in part, pursuant to GCC sub-clause 24.1 above, the Tender Inviting Authority/Ordering Authority may carry out risk purchase goods and/or services similar to those cancelled, with such terms and conditions and in such manner as it deems fit and the supplier shall be liable to the Tender Inviting Authority/Ordering Authority for the extra expenditure, if any, incurred by the Tender Inviting Authority/Ordering Authority for arranging such procurement.
- 24.3 Unless otherwise instructed by the Tender Inviting Authority/Ordering Authority, the supplier shall continue to perform the contract to the extent not terminated.

25. Termination for insolvency

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

26. Force Majeure

- 26.1 Notwithstanding the provisions contained in GCC clauses 22, 23 and 24, the supplier shall not be liable for imposition of any such sanction so long the delay and/or failure of the supplier in fulfilling its obligations under the contract is the result of an event of Force Majeure.
- 26.2 For purposes of this clause, Force Majeure means an event beyond the control of the supplier and not involving the supplier's fault or negligence and which is not foreseeable and not brought about at the instance of , the party claiming to be affected by such event and which has caused the non – performance or delay in performance. Such events may include, but are not restricted to, acts of the Tender Inviting Authority/Ordering Authority either in its sovereign or contractual capacity, wars or revolutions, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes excluding by its employees , lockouts excluding by its management, and freight embargoes.
- 26.3 If a Force Majeure situation arises, the supplier shall promptly notify the Tender Inviting Authority/Ordering Authority in writing of such conditions and the cause thereof within twenty one days of occurrence of such event. Unless otherwise directed by the Tender Inviting Authority/Ordering Authority in writing, the supplier shall continue to perform its obligations under the contract as far as reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

- 26.4 If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of Force Majeure for a period exceeding sixty days, either party may at its option terminate the contract without any financial repercussion on either side.
- 26.5 In case due to a Force Majeure event the Tender Inviting Authority/Ordering Authority is unable to fulfil its contractual commitment and responsibility, the Tender Inviting Authority/Ordering Authority will notify the supplier accordingly and subsequent actions taken on similar lines described in above sub-paragraphs.

27. Termination for convenience

- 27.1 The Tender Inviting Authority/Ordering Authority reserves the right to terminate the contract, in whole or in part for its (Tender Inviting Authority's/Ordering Authority's) convenience, by serving written notice on the supplier at any time during the currency of the contract. The notice shall specify that the termination is for the convenience of the Tender Inviting Authority/Ordering Authority. The notice shall also indicate interalia, the extent to which the supplier's performance under the contract is terminated, and the date with effect from which such termination will become effective.
- 27.2 The goods and services which are complete and ready in terms of the contract for delivery and performance within thirty days after the supplier's receipt of the notice of termination shall be accepted by the Tender Inviting Authority/Ordering Authority following the contract terms, conditions and prices. For the remaining goods and services, the Tender Inviting Authority/Ordering Authority may decide:
- a) To get any portion of the balance completed and delivered at the contract terms, conditions and prices; and / or
 - b) To cancel the remaining portion of the goods and services and compensate the supplier by paying an agreed amount for the cost incurred by the supplier towards the remaining portion of the goods and services.

28. Governing language

- 28.1 The contract shall be written in English language following the provision as contained in GIT clause 4. All correspondence and other documents pertaining to the contract, which the parties exchange, shall also be written accordingly in that language.

29. Notices

- 29.1 Notice, if any, relating to the contract given by one party to the other, shall be sent in writing or by cable or telex or facsimile and confirmed in writing. The procedure will also provide the sender of the notice, the proof of receipt of the notice by the receiver. The addresses of the parties for exchanging such notices will be the addresses as incorporated in the contract.
- 29.2 The effective date of a notice shall be either the date when delivered to the recipient or the effective date specifically mentioned in the notice, whichever is later.

30. Resolution of disputes

- 30.1 If dispute or difference of any kind shall arise between the Tender Inviting Authority/Ordering Authority and the supplier in connection with or relating to the contract, the parties shall make every effort to resolve the same amicably by mutual consultations.
- 30.2 If the parties fail to resolve their dispute or difference by such mutual consultation within twenty-one days of its occurrence, then, unless otherwise provided in the SCC, either the Tender Inviting Authority/Ordering Authority or the supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided the applicable arbitration procedure will be as per the Arbitration and Conciliation Act, 1996 of India.

- 30.3 All disputes arising out of tendering process shall be within the jurisdiction of High Court of Madhya Pradesh, principal seat at Jabalpur, India.
- 30.4 Arbitration proceedings shall be convened by a panel of three arbitrators, one arbitrator each shall be nominated by both the parties and the third arbitrator shall be appointed with the mutual consultation and consent of both the arbitrators.
- 30.5 The award passed by the arbitrators shall be final and binding.
- 30.6 Venue of Arbitration: The venue of arbitration shall be the place from where the contract has been issued, i.e., Bhopal, Madhya Pradesh, India.

31. Applicable Law

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

32. General/ Miscellaneous Clauses

- 32.1 Nothing contained in this Contract shall be constructed as establishing or creating between the parties, i.e. the Supplier/its Indian Agent/CMC Provider on the one side and the Tender Inviting Authority on the other side, a relationship of master and servant or principal and agent.
- 32.2 Any failure on the part of any Party to exercise right or power under this Contract shall not operate as waiver thereof.
- 32.3 The Supplier shall notify the Tender Inviting Authority/Ordering Authority /the Government of Madhya Pradesh of any material change would impact on performance of its obligations under this Contract.
- 32.4 Each member/constituent of the Supplier/CMC Provider, in case of consortium shall be **jointly and severally liable** to and responsible for all obligations towards the Tender Inviting Authority/Ordering Authority/Government for performance of contract/services including that of its Associates/Sub Contractors under the Contract.
- 32.5 The Supplier/its Indian Agent/CMC Provider shall at all times, indemnify and keep indemnified the Tender Inviting Authority/Government of India against all claims/damages etc. for any infringement of any Intellectual Property Rights (IPR) while providing its services under CMC or the Contract.
- 32.6 The Supplier/its Agent/CMC Provider shall, at all times, indemnify and keep indemnified the Tender Inviting Authority/Ordering Authority/Government of Madhya Pradesh against any claims in respect of any damages or compensation payable in consequences of any accident or injury sustained or suffered by its employees or agents or by any other third party resulting from or by any action, omission or operation conducted by or on behalf of the supplier/its associate/affiliate etc.
- 32.7 All claims regarding indemnity shall survive the termination or expiry of the contract.

SECTION – V

SPECIAL CONDITIONS OF CONTRACT (SCC)

The following Special Conditions of Contract (SCC) will apply for this purchase. The corresponding clauses of General Conditions of Contract (GCC) relating to the SCC stipulations have also been incorporated below.

These Special Conditions will modify/substitute/supplement the corresponding (GCC) clauses. Whenever there is any conflict between the provision in the GCC and that in the SCC, the provision contained in the SCC shall prevail.

None

Warranty & CMC (GCC Clause 15)

Warranty: - 3 year Warranty for all the equipments & Items

AMC/CMC:-3 CMC post 3 year Warranty for all the equipments & Items

**SECTION - VI
SCHEDULE OF REQUIREMENTS**

Part I

Schedule No.	Description	No. Of items
1	Surgery	88
	Orthopedics	To be done with tender of 187 Orthopedic Implants.
2	Ophthalmology	23
3	General Medicine	24
4	Pulmonary Medicine	06
5	Pediatrics	05
6	Psychiatry	11
7	Skin & V.D.	03
8	Radio-diagnosis	03
9	Combination of pulsed microwave therapy cum computerised Traction unit with couch.	01
10	NABL Lab	02

Part II: Required Delivery Schedule:

(a) For Indigenous goods or for imported goods if supplied from India:

- 30 days from date of order for Non-Imported (Indigenous) items –too less should be 60 days and 45 days for installation and commissioning as given below
- 120 days from date of order for Imported items (minimum 4 months suggested for delivery)

[Please indicate when the indented items are required to be delivered. In case it is not feasible to consider required delivery schedule, the Corporation may suitable modify in consultation with Indenting authority]

60 days from date of despatch of Notification of Award through Registered Post/ Speed Post/ e-order to delivery at consignee site. The date of delivery will be the date of delivery at consignee site (Bidders may quote earliest delivery period). Installation and commissioning shall be done within 45 days of receipt of goods at site or within 45 days of handing over the site for installation, whichever is later.

(b) For imported goods directly from Foreign:

Not applicable

Part III: Scope of Incidental Services:

Installation, testing & Commissioning, Supervision, Demonstration, Trial run and Training etc. as specified in GCC Clause 13

Part IV:

Turnkey (if any) as per details in Technical Specification.

Part V:

Comprehensive Maintenance Contract (CMC) as provided under GCC Clause 15.

Part VI:

Required Terms of Delivery and Destination.

a) For Indigenous goods or for imported goods:

At Consignee Site – Specified in the List of Requirements

Insurance (local transportation and storage) would be borne by the Supplier from ware house to the consignee site for a period including 3 months beyond date of delivery

b) For imported Goods directly from abroad: Not applicable

S. N.	Name of Consignee location(s)	Contact No. & E-mail ID
1	Dean Gandhi Medical College, Bhopal	(0755)-4050000 deangmc_bpl@yahoo.co.in
2	Dean Mahatma Gandhi Memorial Medical College, Indore	(0731)-2527383/2527679 mgmmcindoredean@gmail.com
3	Dean Gajra Raja Medical College, Gwalior.	(0751)-2403400 grmc1946@yahoo.co.in
4	Dean NSCB Medical College, Jabalpur.	(0761)-2370951 mcjbp@rediffmail.com
5	Dean S.S.Medical College, Rewa.	(07662)-241655 deanmcrewa@rediffmail.com
6	Dean Bundelkhand Medical College Sagar.	(07582)-236270 deansmc08@yahoo.co.in

[please mention and attach complete details of consignee, including its address, name of contact person, contact details]

Section – VII

Technical Specifications

List- 1 166 Equipment for Various Departments of Medical College Associated Hospitals:-

Surgery, Orthopedics, Ophthalmology(To be done with tender of 187 Orthopedic Implants.), General Medicine, Pulmonary Medicine, Pediatrics, Psychiatry, Skin & V.D., Radio-diagnosis Departments, Trauma center & NABL Lab.

Enclosed with the indent form.

All equipments should be European CE/US FDA approved.

Note 1: Bidder's attention is drawn to GIT clause 18 and GIT sub-clause 11.1(c). The bidder is to provide the required details, information, confirmations, etc. accordingly failing which it's tender is liable to be ignored.

Note 2: General: Bidders are requested to make sure that they should attach the list of equipment for carrying out routine and preventive maintenance wherever asked for and should make sure that Electrical Safety Analyzer / Tester for Medical equipment to periodically check the electrical safety aspects as per BIS Safety Standards IS-13540 which is also equivalent to IEC electrical safety standard IEC-60601 is a part of the equipment. If the Electrical Safety Analyzer/Tester is not available they should provide a commitment to get the equipment checked for electrical safety compliance with Electronic Regional Test Labs / Electronics Test and Development Centres across the country on every preventive maintenance call.

Note 3: All equipment operations to be demonstrated (if asked for any item in writing in 10-15 days) through submission of a "Demo model" in packing as would be supplied (Marked with Address) and signs "NOT for Sale" Government of MP Supply" Gross and net weight and markings on packing before experts after Technical Bid Opening by technical expert from the Firm with all accessories and spares complying the specifications and demo piece of the Model has to be submitted . All safety certificates, European CE/USFDA or equivalent standards certification, test reports from Government Approved Laboratory, warrantee and clearances from FDA etc to be submitted. The complete set should be submitted having operational log, maintenance log, break-down log and re-qualification log. The CMC details done earlier should also be brought with user certificates where supplied earlier with complete address, name of person to be contacted with phone.

Schedule no	Name of Department	No. Of items
Schedule No.	Description	(No.)
1	Surgery	88
	Orthopedics	To be done with tender of 187 Orthopedic Implants.
2	Ophthalmology	23
3	General Medicine	24
4	Pulmonary Medicine	06
5	Pediatrics	05
6	Psychiatry	11

7	Skin & V.D.	03
8	Radio-diagnosis	03
9	Combination of pulsed microwave therapy cum computerised Traction unit with couch.	01
10	NABL Lab	02

Contents

Schedule	Department-Medical College	Name of Equipment	Estimated Quantity (Under R/C)+/-20% variation
Schedule 1	Surgery		
	1	Radiofrequency cautery	8
	2	Liposuction machine with cannula	8
	3	Hair transplant equipment set	5
	4	Fractional co2 laser with attachments	6
	5	Binocular loop	15
	6	Rapid infusion pump	65
	7	Dermabrasion set	9
	8	Dermatome	20
	9	Cranio-facial surgery set	7
	10	Device to trap Nematocera	7
	11	System for decontamination of surfaces by using superheated atomized steam	17
	12	On site microbial protection sheet generating & dispensing system:	23
	13	System for cardiac massage and ventilation	17
	14	Automatic hand sanitizer dispenser	76
	15	Environmental decontamination system	24
	16	Skin graft mesher	10
		Pneumatic tourniquet- under process of R/c hence deleted	
	17	Microprocessor controlled power driver system	10
	18	Basic plastic instrument set	11
	19	Endoscopic instruments for facelift	5
	20	Hair restoration system	5
	21	Bed weighing machine	17
	22	High capacity vacuum suction system	26
	23	Electrophoresis system	4
	24	8 slice mobile ct scanner	4
	25	Brain suite	3
	26	Neuronavigation	3
	27	DSA machine with biplaner C arm with DSA & CT facility	5
	28	Operating microscope	6
	29	Neuroendoscope Pituitary set	3
	30	Neuroendoscope Spine set	3
	31	Neuroendoscope Intraventricular scope	3
	32	Neuroendoscope Shunt scope	3
	33	CUSA	3
		High speed drills Electrical-under process of R/c hence deleted	

	34	Pneumatic motor	6
	35	Operating tables with neuroattachments	5
	36	Intraoperative USG	6
	37	Sugita head clamp	6
	38	Mayos head clamp	6
	39	Aneurismal clips with all applicators	104
	40	Patient slide	10
		Fowlers bed-under process of R/c hence deleted	
	41	Craniotomy set	12
	42	Spinal sets	10
	43	Microsurgery sets	7
	44	Bipolar forceps isokool	22
		Suction machine-under process of R/c hence deleted	
		OT lights-under process of R/c hence deleted	
	45	Lyell's flexible arm and table attachments	5
	46	Gardener's skull traction	10
	47	Trans-spenoidal and trans oral surgery set	7
		Surgeons chair with arm rests-under process of R/c hence deleted	
	48	Operative ultrasonic generator	7
	49	Laser system for endoscopic treatment of prostate, bladder stones. Ureter and kidney holmium laser 100 watt	5
	50	PCNL set with endovision HD camera system.	6
	51	Flexible cystonephro fiberoscope	5
	52	Uroflowmetry system	10
	53	Ureterscopic set 1 with lithotripter(pneumatic)	6
	54	General laparotomy set	92
	55	Urethroplasty set	8
	56	Open surgery hand clip applicator small,medium,& large	12
	57	Thompson's self retaining retractor upper gi	11
	58	Flexible endoscope gastroscope	6
	59	Lower gi flexible endoscope with videorecording and monitoring system (with inbuilt recording system.)	6
	60	Bariatric surgery ot table	4
	61	Multi purpose robotic surgery system	3
	62	Flexible esophageal bougies	9
	63	Self retaining ring retractor for pelvic surgery	8
		Cusa cavition ultrasonic aspirator- same as item no.32 hence deleted	
	64	Argon plasma coagulator	4
		LED CEILING LIGHT WITH COVER (WHITE LIGHT) with camera for recording-under process of R/c hence deleted	
	65	Bipolar turp set	4
	66	Holmiumlasers Watts	3
	67	Impedance based bipolar RFA for endoluminal ablation. With accessories and disposables.	4
	68	Sigmoido Scope	8
		Burr hole set-under process of R/c hence deleted	
	69	Power saw	6
	70	Micro instruments set	6

		Laser-under process of R/c hence deleted	
		Laparoscopic set-under process of R/c hence deleted	
	71	Lithotripsy	4
	72	Mobile surgical work station	8
	73	Plasma sterilizer	8
	74	Flexible endoscope & side viewing gastro_duodenoscope	4
	75	Urethral dilator set	18
		Pediatric Ventilator-under process of R/c hence deleted	
	76	Neonatal Ventilator	8
		Bubble CPAP-under process of R/c hence deleted	
		Phototherapy LED-under R/c hence deleted	
		Urethroplasty set- same as item no.60 hence deleted	
		Flexible esophageal bougies- same as item no.67 hence deleted	
		Medicine Trolley Cum crash cart-under process of R/c hence deleted	
		Infant Warmer For environmental precise control effective isolation, adequate, oxygenation of surgical neonate and for continuous monitoring of respiratory assessment of new born-under process of R/c hence deleted	
	77	Treonic Infusion Pump Small amounts of L.V. fluids effectively controlled and monitored by this Pump	31
	78	Paediatric Sigmoidoscope & colonoscope	5
		Paediatric Bronchoscope-under process of R/c hence deleted	
	79	Paediatric laparoscope	8
	80	Hand Instruments Set:for paed lap.	12
	81	Paediatric Operation Table Electronic Controlled	6
		LED Light (Light Source) -under process of R/c hence deleted	
	82	Harmonic knife	7
		PCNL set- same as item no.55 hence deleted	
	83	Pediatric Ureteroscope	5
	84	Operating Room High Definition Video System for laparoscopy and endourology OR HD Video System	7
	85	Neonate Transfer Incubator	13
	86	Pediatric Urodynamics and Anorectal Manometry composite machine	3
	87	Warming mattress	23
	88	Pediatric Video Gastroscope	4
		Suction Machine-under process of R/c hence deleted	
		Pulse Oximeter-under R/c hence deleted	
	Orthopedics	To be done with tender of 187 Orthopedic Implants.	
Schedule 2	Ophthalmology		
	1	Spectral domain OCT	4
	2	High End Vitrectomy Machine	5
	3	Viewing system for vitrectomy, with dedicated binocular tube (contract vitrectomy viewing system)	5
	4	Vitreo retinal surgical instrument set with viewing lens set	7

	5	Operating Microscope with BIOM & accessories	5
		Phacoemulsification unit -under R/c hence deleted	
	6	Automated Perimeter	5
	7	Fundus Flouroscein Angiography(Digital)	4
	8	Specular biomicroscope	5
	9	Slit lamp with photography facility	8
	10	Visual Electrophysiology System	5
	11	Double Frequency Nd Yag LASER (532nm)	3
	12	Synaptophore	7
	13	Ophthalmic diode laser	3
	14	Heidelberg retinal tomography II (HRT)	4
	15	GDx VCC (nerve fiber layer analyser)	4
	16	Corneal Topography analyser	5
	17	Pachymeter	9
	18	Chair unit with refraction set with slit lamp with cordless indirect ophthalmoscope	10
	19	Hand held slit lamp	8
	20	Video Indirect Ophthalmoscope	8
	21	Motorized OT table with chair	11
		Boyle's apparatus-under R/c hence deleted	
		ETO sterilizer-under process of R/c hence deleted	
	22	Autorefractometer with keratometer	8
	23	Flash autoclave	6
Schedule 3	General Medicine		
		Defibrillator-under process of R/c hence deleted	
	1	Central monitor	10
		Invasive bedside monitor-under process of R/c hence deleted	
	2	Vascular Doppler Recorder	6
	3	Aphasia Examination Kit	5
	4	Electro- nystagmograph PC based Hardware Kit with following details	5
	5	Upper GI Endoscope	11
	6	Colonoscope RGB O/P processor and light source CD Rom /Writer	5
	7	Video ERCP Scope	5
	8	Haemodialysis machine	9
	9	Ro plant	4
	10	ECHO machine	12
	11	Pulse oximeter with nibp:	51
	12	Tread mill Stress test Data acquisition unit	12
	13	PC based ECG Machine	14
	14	Mentamove (R)	6
		Pulse oxymeter-under R/c hence deleted	
		Oxygen Concentrator-under process of R/c hence deleted	
		Nebuliser-under process of R/c hence deleted	

	15	Bilevel CPAP Ventilator	18
	16	3D Echo Cardiography and Color Doppler system	6
	17	Graphic Waveform	1
	18	Body plethysmograph system with diffusion study	1
	19	Polysomnography System For Sleep Disorders Study	3
		Suction Machine-under process of R/c hence deleted	
	20	Steel Cot	130
		Nebulizer-under process of R/c hence deleted	
	21	Upper GI Endoscope (Video)	6
	22	Video Colonoscope	2
		Video ERCP Scope – same as item no.8 hence deleted	
	23	Capsule endoscopy system	3
	24	Endoscope ultrasound system	3
Schedule 4	Pulmonar y Medicine		
		CPAP-under process of R/c hence deleted	
		Bilevel ventilator– same as item no.16 of schedule 4 hence deleted	
	1	Desktop Spirometer	5
	2	Video Bronchoscope Adult	5
	3	Video Bronchoscope Paediatric	2
	4	Fibreoptic Bronchoscope	3
	5	PFT machine with facility for spirometry, lung volume & diffusion capacity.	4
		Arterial Blood gas machine-under process of R/c hence deleted	
	6	Rigid Bronchoscope	4
Schedule 5	Pediatrics		
		Phototherapy LED-under R/c hence deleted	
	1	Phototherapy Unit (CFL)	22
		Neonatal ventilator – same as item no.82 of schedule no.1 hence deleted	
		Pediatric Ventilator-under process of R/c hence deleted	
		Bubble CPAP machine-under process of R/c hence deleted	
	2	High frequency ventilator	5
		Pulse oximeter-under R/c hence deleted	
		Oxygen concentrator-under process of R/c hence deleted	
		Transcutaneous bilirubinometer-under process of R/c hence deleted	

	3	Portable echo machine	4
	4	Cerebral function monitor (Amplitude integrated EEG)	4
	5	Incubator	8
		Flux meter-under process of R/c hence deleted	
		Air Oxygen Blender-under process of R/c hence deleted	
Schedule-6:	Psychiatry		
	1	Computerised Brief Pulse ECT Machine	6
	2	EEG Machine	3
	3	Lithium analyser	4
	4	Biofeedback machine	11
	5	Alcohol Breath analyzer	10
	6	Aversion therapy Apparatus	5
	7	Multi behavior therapy	6
	8	Digital Electro Sleep	5
	9	Psychometric tools	16
	10	Electrolyte Analyzer With Special Lithium analyzer	5
	11	Multi behavior therapy	4
Schedule-7:	Skin & V.D.		
		CO2 LASER-under process of R/c hence deleted	
	1	Ultraviolet light A chamber	4
	2	Ultraviolet light B chamber	4
		Crash cart-under process of R/c hence deleted	
	3	Trinocular microscope with Dark ground attachment	4
Schedule 8	Radio-diagnosis		
	1	3D-4D color Doppler high resolution USG machine:	10
	2	DIGITAL SUBTRACTION ANGIOGRAPHY UNIT	5
	3	80KW HIGH FREQUENCY X-RAY MACHINE WITH I I TV	9
Schedule 9	Trauma Center	Combination pulsed Microwave diatherapy cum computerised traction unit with couch.	24
Schedule 10	NABL Lab	Fridge (Laboratory Refrigerator)	06
		Hot air oven	04

Note 1: Bidder's attention is drawn to GIT clause 18 and GIT sub-clause 11.1(c). The bidder is to provide the required details, information, confirmations, etc. accordingly failing which it's tender is liable to be ignored.

Schedule-1:

Technical Specification for Surgery-88

S n o	Name of item	Specifications
1	Radiofrequency cautery	<p>Microprocessor controlled, Dual Engine High frequency ESU Primary frequency: 4 MHz or more Dual Frequency/ Secondary Frequency : 300 KHz or more Output wave form: Sine wave to prevent arc phenomenon Should have the facility to use CUT/ BLEND/ COAG through Monopolar 1 socket at High Frequency Should have the facility to use Forceps for COAGULATION through Bipolar socket at High Frequency Should have the facility to use PLASMA SPRAY for rapid coagulation of wide area through Monopolar 2 socket at 300 KHz Should have the facility of selecting output pulse time from 0.1 to 2 sec in steps of 0.1 sec and 2 to 20 sec in steps of 1 sec. Should also have the facility for Continuous output. The system should allow the Dual / Secondary Frequency functions to be operated along with the HF function Should display Mode (Cut/ Coag/ Blend/ Bipolar) Monopolar 1/ Bipolar output value Output time RF Output ON/ Off Return Pad connection Alarm display with acoustic signal Monopolar 2 output rate and value Error Easy to use output control selection and mode change for Monopolar 1, Monopolar 2 and timer control selection The system should stop when there is any error Maximum Output Pure Cut : 300W Pure Coag : 120 W Blend : 240W Plasma Spray: 200W Equipotential return pad to avoid injuries Should have the option of Hand piece as well as Foot switch operation</p>
2	Liposuction machine with cannula	Power assisted liposuction machine with all accessories.LS2 system with k pump.
3	Hair transplant equipment set	Microscope and other instruments.
4	Fractional co2 laser with attachments	<p><u>TECHNICAL SPECIFICATIONS for CO2 LASER SYSTEM</u> LASER TYPE - Ultra Pulsed CO2 Laser with Micromanipulator / Coupler, Operating Microscope, CCD Camera / Coupler, Beam Splitter, 22" Flat Screen LCD Monitor, Electrically operated 180 Degree Inclinable, Height Adjustable - Patient Treatment Chair and Hydraulic / Mechanical Lever operated - Doctor's chair.</p>

		<p>LASER CONFIGURATION -SEALED OFF CO2 GAS, DC EXCITED. WAVE LENGTH -10600nm – 10.6 Micron. MODE STRUCTURE-TRUE WG TEM₀₀ MODE POWER TO TISSUE -CONTINUOUS, PULSED, ULTRA PULSED 1 - 40W PULSE DURATION -SUPER PULSE:400-800ms ULTRA PULSE < 300ms PEAK POWER - 300-1200W MICROPROCESSOR - SELF DIAGNOSTIC & SELF CALIBERATION PURGE AIR - AUTO PURGE AIR. HAND PIECES - 50mm & 100mm SPOT SIZE - 0.1mm - 0.2mm at Focus. DISPLAY - LCD Touch Screen MEMORY - USER PROGRAMMABLE MEMORY SETTINGS BEAM DELIVERY - ARTICULATED ARM 7 MIRRORS - TITANIUM. AIMING BEAM - 635-670nm, 5mw,Red Diode - ADJUSTABLE BRIGHTNESS, COOLING SYSTEM - CLOSED CYCLE PURIFIED WATER TO AIR POWER INPUT - 3-6A, 220V AC / 50Hz. WEIGHT - Approx 60KGs.</p>
5	Binocular loop	4.5 x.magnification
6	Rapid infusion pump	<p><u>Rapid Intravenous Infusion Pump</u></p> <p>The unit should be small in size, battery operated . The unit should be capable of providing rapid and controlled administration of crystalloid and colloid IV fluids, whole blood, and PRBCs 3.The unit should have valve to prevent Retrograde flow . 4.The unit sould have adjustable flowe rates upto 6lts/hrs and ability to give automated bolous of 250cc in less than 3 minutes minutes 5.The Unit should have alarm when presence of air in line, down stream occlusion and low Battery. 6. The unit should be capable of administring fluid while patient is on the move in the hospital or in transportation 7.The unit should be US FDA approved 8. The unit should come with 10 pcs each of IV fluid cartridge and 10 pcs of Blood Cartridge.</p>
7	Dermabrasion set	Korean micromotor with detachable hand piece and diamond burr with cylindrical burrof variable sizes.
8	Dermatome	<p>The Dermatome should be able to cut grafts of various widths. Should be provided with variable Guards to adjust the width of the Graft to 2”, 3” or 4”. Should not need any carrier to lift the Graft from the donor site. The cut graft should automatically fold into the pocket of the Dermatome. The graft should be severed by simply lifting of the Dermatome up & away from the donor site</p>

		<p style="text-align: center;">without a carrier.</p> <p>The thickness of the graft should be adjusted with a pointer on the scale. The thickness of the graft should be adjustable to thousandths of an inch. The Dermatome unit should be supplied complete with motor unit in the handle, set of guard, calibration guide, power plug cord, screwdriver & should be supplied complete with a carrying case for proper maintenance and 20 blades.</p>
9	Cranio-facial surgery set	it should be a titanium implant system.
10	Device to trap Nematocera	<p>it should be attract & trap by simulating human fray.</p> <p>It should emit UV light at a specific wavelength to for attraction.</p> <p>It should be non toxic & safe for human.</p> <p>Should be quoted along with consumable.</p>
11	System for decontamination of surfaces by using superheated atomized steam	<p>System for decontamination of surfaces by using superheated atomized steam</p> <p>Should produce superheated, saturated atomized steam</p> <p>The steam should delivered at 180 degrees Celsius to achieve proper disinfection in short time</p> <p>The steam should be produced in an expansion chamber to achieve high temperature</p> <p>It should have an automatic refill system of transferring water from the tank into the boiler for unlimited operation time</p> <p>The pressure in the boiler should be more than 4 bars</p> <p>There should be a system for monitoring the boiler pressure</p> <p>Should have Continuous steam quantity adjustment</p> <p>The generated steam should be delivered through a nozzle</p> <p>The delivery nozzle should have a system for further heating the steam to bring it to the desired temperature of 180 degrees</p> <p>The steam should quickly evaporate from the treated surfaces without leaving any residual moisture</p> <p>The system should use a cleaning agent to ensure proper sanitization</p> <p>The mixture of steam and cleaning agent should be safe, so that it can be released in the presence of personnel</p> <p>Should have the provision for attaching the sanitizer bottles in the nozzle</p> <p>To eliminate the risk of contamination by the operator, there should not be any need for the operator to come in contact with the surfaces to be sanitized.</p> <p>Should be safe enough for application on surfaces and fabrics</p> <p>Power consumption should not exceed 2500 Watt</p> <p>CE Marked</p> <p>Consumable for the above System</p> <p>The Cleaning agent should work with over heated dry saturated steam to provide proper sanitization</p> <p>It should get attached to the nozzle of the above system</p>
12	On site microbial protection sheet generating & dispensing system:	<p>Should be fully automated</p> <p>Should have an option to dispense variable quantities of wipes</p> <p>Should give error alarms</p> <p>Should be quoted along with all required consumables like rolls & refill.</p>
1	System for	SYSTEM FOR CARDIAC MASSAGE & VENTILATION

3	cardiac message and ventilation	<ul style="list-style-type: none"> • It should be easy to use & easy to handle. • Should work without any source of energy like electricity, compressed air & gas. • Self centering & should be adaptable to each patient's individual chest size. • Should alternate automatically between cardiac massage & ventilation in a rhythm of 30:2. • Depending on the patient's chest size the depth of pressure should adjust itself between 40 & 50 mm. • Ventilation volume should automatically adjust between 500 ml & 600 ml. • There should be an integrated access pressure valve to avoid a patients potential bloating. • Should be quoted along with the consumables.
1 4	Automatic hand sanitizer dispenser	Automatic optically triggered hand sanitizer, should give 1 ml solution each time, should have anti theft installation. Should run on readily available batteries. Should have low power consumption- should give minimum 40,000 cycles for each battery pack.
1 5	Environmental decontamination system	<ul style="list-style-type: none"> - Should be designed to kill Bacteria, viruses and fungus in the indoor air. - Should eliminate other environmental pollutants like particulate matter and VOC - Should have different modules for air filtration, air decontamination, fumigation - Should be suitable for areas of ≥ 40 square meter - Air Filtration Module <ul style="list-style-type: none"> • Should have multi-stage mechanical particle arrestors for removing particles with a very high efficiency. • Should have nanometer photocatalytic filter for continuously decomposing VOCs. • Should have dual stage ACF for VOC management • It should have maintenance of air purification by 2 Curved UV Lamps using Ultra Violet Germicidal Irradiation technique for maximum efficacy • The air flow should be adjustable between 430cubic meter/ hr to 200 cubic meter per hour. • Should be a Floor mounted mobile system • Should be made of non conducting, shock proof material - Air Decontamination Module <ul style="list-style-type: none"> • Should use flash thermal energy for decontamination of air • should not use any toxic chemical like ozone or disinfectants for air disinfection and decontamination • should be fan free & chemical free • Should be made of non conducting, shock proof material - Controller System <ul style="list-style-type: none"> • All the modules should be turned on/ off remotely using the controller - The system should be manufactured by high quality manufacturers. Must be ISO 9001-2008, ISO 14001 – 2004, ISO 13485 - 2003, WHO – GMP/ GPP certified company - The system should be CE Certified as Class I Medical Device

1 6	Skin graft mesher	<p>Mesher should have a full range of meshing ratios, with adjustable meshing drum allowing meshing ratios from 1:1 to 4:1 Should be able to use any sterile smooth plastic plate of 0.5mm thickness as Skin graft carrier. Variable Mesher should be able to operate both as powered or manual mesher. Should be simple & ergonomic design. Should be provided with <ul style="list-style-type: none"> sterilizing container Skin Graft Carrier power pack including motor gear, Batteries Ratchet. </p>
	Pneumatic tourniquet	Under process of R/c-tender no.44 hence deleted
1 7	Microprocessor controlled power driver system	<p>Microprocessor controlled power Driver system should provide complete functions of bone harvesting drilling & fixation of small bone & helps in osteosynthesis. Should have computerised control with touch screen facility having options of digital display of speed & to preselect acceleration & beraking of handpiece speed, Should be provided with cable & footswitch & should be provided with complete set of following accessories. <ul style="list-style-type: none"> Universal Drill Multiple handpieces 1:5 speed upto 30,000 rpm Micro Saggital Saw with blades with speed of 20000 cycles /min Micro Oscillating saw with blades with speed upto 15000 rpm Micro reciprocating saw with blades with speed of 20000 cycle/min Wire driver with max peed 2500 RPM Cutting burrs & twist drill </p>
1 8	Basic plastic instrument set	<p>The instruments should be of improved steel with high precision quality with CE, TUV or ISO 9002 certification. The fine cutting instruments should be of Tungsten carbide –Supercut variety. The needle holders should be with Tungsten Carbide inserts for extra durability</p> <p>Converse skin hook small</p> <p>Converse Skin hook large</p> <p>Mathieu retractor (Cat's Paw)</p> <p>Hajek's Retractor)</p> <p>Langenbeck's retractor small</p> <p>Langenbeck's retractor large</p> <p>Weislander Retractor (self retaining)</p> <p>Dental Syringe</p> <p>Stainless Steel Scale 6"</p> <p>Stainless Steel Scale 12"</p> <p>Castroviejo Calipers</p> <p>Bristow Bone lever</p> <p>Smith Peterson Osteotome 10mm</p> <p>Smith Peterson Osteotome 20mm</p> <p>Smith Peterson Osteotome 25mm</p> <p>Tessier Osteotome set of 8</p> <p>Gouge 7" 2mm</p> <p>Gouge 7" 4mm</p> <p>French Chisel 11mm</p>

Halsted Mosquito artery forceps 5 3/4" Cvd.
Halsted Mosquito artery forceps 5 3/4" St.
Kocher Forceps
Kelly Artery forceps st.
Kelly Artery forceps cvd.
Dandy Tissue Forceps
Debakay Tissue forceps st. non traumatic jaws 1.5mm jaws 8"
Mcindoe dissecting forceps 6" nontoothed serrated jaws
Potts Smith Dressing forceps 7"
Adson Tissue forceps 4 3/4" toothed delicate
Adson Tissue forceps serrated jaws 4 3/4"
Gillies Dissecting forceps 6" toothed
Allis Tissue Forceps 6" 4x5 teeth
Elevator double ended, angled right and left
Elevator double ended, spoon shaped
Molt Dissector
Howarth Elevator
Scissor angle short blades 18mm with serrated blades
Kilner scissors straight with fine points
Kilner Scissors curved on flat 12cm
Mcindoe Scissors cvd.on flat with round points 7"
Iris Scissors straight sharp Tc supercut
Iris scissors cvd. Sharp TC supercut
Surgical scissors 5" st. sharp points TC
Stevens Tenotomy scissors cvd. 12cm TC
Brown dissecting Scissors st. 5 3/4"
Mayo dissecting supercut scissors 17cm cvd.
Mayo dissecting supercut scissors 17cm St.
Fomon supercut Scissors cvd. 5"
Fomon supercut Scissors cvd. 5" Dorsal angle 15cm
Metzenbaum Scissors cvd. 18mm Tc Supercut
Gorney scissors cvd. 9"
Mayo Hegar Needle Holder 6 1/4"
Derf Needle Holder 4 3/4"
Maltz Rasp Tc.
Mcindoe Rasp TC
Mallet 8 oz
Asch forceps
Ruskin Bone cutting forceps
Luc's Forceps
Padgett St. bone cutting forceps
Padgett angled bone cutting forceps
Bunnel Bone drill small
Knuckle Bender Large
Knuckle Bender Medium
Knuckle Bender Small
Mcindoes Raspatory
Bard Parker knife Handle no.3
Bard Parker knife Handle no.4
Bard Parker long knife handle no.3
Barron Knife handle octagonal

		Backhaus Towel clips 3 1/2"
		Sponge Holding forceps 9 1/2"
		Frazier suction tube 8 French
		Frazier suction tube 10 French
		Magilli's suction tube size 2
		Meade wire cutter pliers
		Dressing Trolley
19	Endoscopic instruments for facelift	Micro Jaw curved metzenbaum scissor with cautery
		Micro Jaw curved dissecting forceps with cautery
		Micro Jaw Curved Hook Scissor with cautery
		Curved 'L' Nerve/ Dissection Hook knife with suction cautery
		Curved spatula with suction and cautery
		Frazier suction tube malleable
		Endoscopic suture carrier malleable shaft
		Replacement rotatable insulated handle for dissection
		Replacement Rotatable locking handle for grasping with cautery
		Endoscopic periosteal elevator 6mm oval malleable shaft
		Endoscopic Periosteal elevator Oval , 10mm malleable shaft
		5.0mm Needle holder
		Micro Jaw, Straight metzenbaum Scissors with Cautery
		Micro Jaw, straight Maryland Dissecting forceps
		Replacement Insulated shaft for Inserts
		Monopolar Electrocautery cord
		4mm, 30 deg, high Magnification Endoscopic with wide angle for Brow lift & facial procedure
		Visualization/Irrigation sheath for use with Endoscope
		Dissecting/Retraction Sheath for use with Irrigation sheath
		Xenon light source
		Light cable for
		Monitor Visual
		Video Recorder & Printer
		Cart
		High Resolution Video Camera
20	Hair restoration system	<ol style="list-style-type: none"> 1. Should prevent the need of making separate holes. 2. Should ensure minimum bleeding. 3. Should ensure totally natural looking hair transplants. 4. Should not cause any damage to the hair bearing structure of the skin 5. Should provide for faster healing time 6. Should be provided with 4 sizes of the needles for flexibility of use.\ 7. Should maximise transplanted hair growth even after transplanting large number of grafts.
21	Bed weighing machine	<p>Bed Scale complete with trolley which incorporates space saving storage for sensors.</p> <p>Easy handling- sensors ramps are placed in front for hospital bed no. additional accessories required sensorramps are adjustable to any given wheel size capacity: 300 kgs</p> <p>Weighing range 2-300Kg</p> <p>Sensitivity- 100 gms</p>
22	High capacity vacuum suction	<p>Suction machine manufactured in ABS,</p> <p>Aspirator – which has maximum suction of –090 bar (730mm/Hg). It operates</p>

	system	<p>on 230V –50/60HZ Lubrication & maintenance free pump . Machine has 4 artistic castors, 2 of which with brakes, to allow mobility. 2 or 4 liter jar autoclavable makrolon with 200/400ml Each jar has double security valve with anti bacterial filter . The machine can operated by foot paddle also. Size:- 55 x 45 h 65cm Weight – 20 kg Maximum suction – 0.90 bar (730mm /hg) Flow 100 l/min Norms CEI 62-5 (IEC 601-1) 93/42/EEC</p>
2 3	Electrophoresis system	Mini plus horizontal gel unit with removable casting tray and 2x1 mm thick , 16 sample combs and coloured loading strip.
2 4	8 slice mobile ct scanner	<p>8 Slice True CT Scanner Complete self contained lead shielding Onboard 10” LCD touch screen DICOM 3 images compliant with CereTom modality worklist module Integrates with all PACS 1.25,2.5,5.0,10.0mm slice thickness Laptop Imaging Computer with 17” hi-res Monitor Hardware Processor: Intel® Core™ 2 Duo Processor 3 GHz Memory: 2 GB Hard Drive: 120 GB OS: Windows XP Professional Monitor Resolution: 1920 x 1200 Advanced Visualization Software Package (Barco’s Voxar 3D™) 2D 3D MPR viewing Radiolucent Universal Scan Board Radiolucent Carbon Fiber Material Compatible with all bed types Stryker Hill-Rom KCI Attaches to the head of the bed Patient slides up Board attaches to scanner for easy transport Allows for patient to be scanned in their OWN bed Bed Adapter Designed to fit any bed Allows for optimized position of scan board for patient bedside scanning Adapter allows for any bed to convert into the CereTom Scanning Platform 4 Day Onsite Training Conducted by a NeuroLogica clinical specialist (up to 16 CEU Credits) Covers all parts and labor including X-Ray tube</p>

<p>2 5</p>	<p>Brain suite</p>	<p><u>BROAD BASED SPECIFICATIONS FOR INTEGRATED NEURO OT SUITE</u></p> <p>The Operating Room theater/Suite should have</p> <ol style="list-style-type: none"> 1. Fully integrated floor mounted iMRI 2. Full HD High-end Ceiling mounted image guidance system 3. Cranial Application software 4. Integrated data management system 5. Ceiling / Floor mounted surgical microscope 6. Ceiling mounted OR lights with integrated camera 7. MR compatible OR Equipment & Anesthesia System 8. Room Control and OR power Management system 9. RF Shielded OR Cabin with interior Finish 10. Installation 11. Miscellaneous <p>It should have the following features</p> <ol style="list-style-type: none"> 1. INTRA-OPERATIVE MRI for Neurosurgical Procedures: <ul style="list-style-type: none"> • Stable ultra-short length (150cm or less) whole body superconductive magnet strength of 3 Tesla magnet with active shielding. • High Performance gradient System with minimum gradient strength of 30mT/m or better. • MR-compatible OR table with exchangeable table top and compatible head holder for stabilizing patients head during the procedures. • Magnet bore to be sufficiently wide (60cm or more) after positioning of gradient. Shim and RF antennae to allow positioning the patient during surgery with head frame / head holder for imaging. • Digital RF Transmit and Receive System with 16 independent RF channels to permit PAT factors up to 4 (one direction) or more to help increase speed acquisitions. • Patient table should be able to take at least 150 kg patient load. Patient table should be usable as the operating table & should easily swivel or slide out for operating position. It should be incorporated with operating MR compatible head holder so as to allow imaging during surgery in supine, prone and lateral position. • Automatic registration of MR image should be possible for image-based navigation. • Minimum 8 channel Head Coil that can be used for image acquisition and intra-operative applications in Prone, supine & lateral positions. • Should be adequate for comprehensive examinations • Should have all the necessary coils & support systems 2. Fully Integrated High Definition (HD) Ceiling Mounted High-end Intraoperative Neuro Image Guidance Platform: <ul style="list-style-type: none"> • System should offer network integration with MRI scanner for intra-operative Image Transfer. • It should have Interruption free signal transmission via fiber optical multiplexing system including all necessary analog/digital converters. • The system should be wireless based on Passive Marker Technology. • It should offer Planning and cranial navigation software with advanced 3D Visualization • Software should offer preoperative and intraoperative Automatic Image fusion of the CT/ MRI/ DTI/ BOLD MRI images.
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- **The Navigation platform should come with in-wall, multi-touch information gateway having Interactive DICOM viewing, Universal DICOM transfer, Full HD Streaming & recording capabilities**
 - **It should have a Zero OR footprint concept provided through ceiling-mounted cameras and touch displays**
 - **It should have a brilliant display quality with resolutions beyond full HD (1920x1200pixels per display). Image quality entirely preserved, no visualization limitations from the touch interface (surface acoustic wave technology)**
 - **Interface Box for connectivity e.g. with surgical microscopes, fluoroscopes, endoscopes, ultrasound etc via state-of-the-art digital and analog video inputs supporting up to full HD resolution: HD/SD-SDI up to 1080i/29.97fps, Composite (CVBS, NTSC/PAL), S-video (NTSC/PAL). 1x SDI HD (In), 1x S-Video (In), 1x Composite (In), 1x Brainlab Microscope Connector (with: 1x USB 2.0, 1x RS232, 1x SXGA, 1x SDI HD(In), 1x Composite(In))**
 - **Two large size, Clinical grade monitors (min. 42” each) additional screen should be there to have display of different image modalities/ live videos etc**
 - **The High-end Navigation platform should have a High resolution high definition with 1920 X 1200 pixels display screens with integrated Infrared camera system**
 - **It should have flexible positioning of cameras and monitor with multi articulated arms allowing adjustment to virtually any position**
 - **The Infrared camera should be extremely flexible in terms of providing for various adjustments to allow for various positions with camera height to allow flexible patient positioning & registration in both prone & supine position. It should:**
 - **Have extended detection volume and laser pointer for quick and intuitive positioning**
 - **Detects three-dimensional position of tools equipped with reflective marker spheres**
 - **Have Tracking accuracy of less than 0.5mm RMS (Root mean Square)**
 - **The system must have dynamic referencing so that registration is not lost even if the camera or patient moves.**
 - **Navigation computer unit & Power supply, if required should to be positioned outside OR for better space management in the OR.**
 - **System should be operable without keyboard & mouse**
 - **The system should be capable of loading complete Cranial applications for Craniotomies, Skullbase tumors & Functional Neurosurgery.**
 - **The Advanced Cranial application software should have a separate workstation with TFT monitor for advanced cranial surgery planning enabled with transfer of preoperative data from CT, MRI, DTI, BOLD, SPECT, PET etc in DICOM format from any sources**
 - **The system should have screenshot storage function for documentation purpose**
 - **Disposable markers – Approx. 250 pieces should be provided**
- 3. Cranial Application – Cranial Planning & Navigation:**
- **The system should permit intra-operative imaging to treat complicated neurosurgical cases and clinical applications like Glioma resection,**

		<p>pituitary tumor surgery, complicated tumor resection, epilepsy surgery, and intra cranial Cist surgery, biopsy, catheter placement, vascular surgery and functional imaging.</p> <ul style="list-style-type: none"> • The software should have the capability to paint the targets and adapt to the complex 3D structure of the lesion/ object/ landmark using the HU value so that it becomes quick & time saving to outline the object during pre-operative & intra-operative planning. • The pre-operative planning for cranial application available should allow advanced visualization of 3D objects with volumetric information • The application should also include Manual patient registration (incase where Automatic patient registration is not used) and should avoid additional scanning cost for the patient without the use of fiducials or facial masks. • The system should have automatic image fusion capabilities of pre-operatively acquired DICOM images in the form of CT, MR, fMRI (DTI & BOLD), PET or SPECT • The system should allow DICOM images in Axial, Sagittal or Coronal planes should be reconstructed as 3D images and advanced cranial planning can be done on any plane and should be adapted to all planes automatically • The cranial planning should include the atlas based automatic object segmentation of anatomical objects in the brain • The cranial planning should allow automatic fusion of multiple DICOM data (CT, MRI, DTI, BOLD etc) • Software should offer Conversion of fiber tracts to 3D structures for visualization & interactive selection of Fiber tracks. • Software should allow anatomical images to be merged with functional maps to visualize perceptual, motoric & cognitive areas of the brain using the Blood Oxygen level dependent (BOLD) mapping & localization of functional areas. • The system should allow patient registration in both supine & prone position with – • Automatic patient registration while using Intra-operative MRI • Automatic Elastic fusion of pre-operative & intra-operative patient data for calculating Brainshift • Skin sensitive touch device for maximum accuracy in prone position while performing manual patient registration (in cases where intra-operative MRI imaging is not needed) • Laser registration device for markerless/touch free & fast registration while performing manual patient registration (in cases where intra-operative MRI imaging is not needed) • The system should display of a predefined trajectory pathway, inline and probe eye views. • The probe should have capability to show images at 0mm - 180mm in front of it (Tool Tip Extension). The virtual tip should be differentiated from real tip by color. • The system should have sub-millimetric patient accuracy ideal for deep seated cranial biopsies; at the sametime the system should also have the accuracy verification/ prediction system in-built in the system. • Microscope interface software should have advanced image guided microscopy: Tracking of spatial orientation, viewing, direction, and
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associated focal point of the microscope, Superposition of 3D projections and reformatted contours of pre-planned anatomical structures, targets, and trajectories Injection of such 3D information (contours, trajectories, targets) into the optical pathway of the microscope. Injection of non-correlated video images or diagnostic images (reformatted 2D/3D images) into optical pathway Continuous "smart" auto focus to the instrument or pointer tip.

- Software for Frameless Biopsy system
4. Image Data Management System - Digital OR:
- System should offer complete Software and computer hardware for management of different patient data from different sources to display on Integrated I.P based Data Management Systems
 - System should offer complete digital information routing by using fiber optic wiring to allow images transfer. Conversion of analog into digital images, digital recording and digital image enhancement should be possible.
 - System should offer fast and direct control through touch screen of ceiling mounted navigation station. Sources should include live-video (microscope, endoscope, OR- lamp), ceiling mounted navigation screen and MRI data
 - Should be expandable to link to the hospital PACS network for retrieving, viewing, displaying and saving of patient data.
 - System should offer an Advanced hardware & software for routing and viewing of digital image and video sources within the OR environment and outside of an operating room. Should also provide advanced viewing and documentation functions.
 - System should offer flexibility of routing different video signals on the display panels during surgery.
 - System should include extra large in-wall integrated LCD monitor system for display of patient data from different sources at large size and full HD resolution during the procedure. A minimum of 3 high-resolution flat panel LCD screens with 16:9 format, built in-wall Superior resolution (1920x1080), high contrast and high brightness should be there.
5. Ceiling/ Floor mounted Surgical Microscope:
- Compact easily movable with class I Electrical safety features. Should have overhead clearance and long reach with short optical head distance
 - Should have bilateral motorized hand control unit for focus, zoom, light, video recording, still photography and fine X Y movement control with single release key for unlocking all movements
 - Motorized magnification 6:1 zoom, with 1.4-14 Mag with 10X or more eye piece, Motorized focus via multifocal 200 mm to 500 mm lens, with manual adjustment, widefield eyepiece (main surgeon and assistant), with field of view 15mm to 140mm with integrated beam splitting for assistant stereoscopic confocal eye piece lenses equivalent to main eye pieces
 - Rotation of optics upto 540° with lateral tilt up to 50° or more to left and right, Inclination tilt -30° to 120° or more, Binocular tubes with variable angle: 0° to 115° range for main surgeon, -55° to 60° for

		<p>assistant with automatic, zoom synchronized illumination, working distance synchronized light control. Single button auto balance in all axes with separate independent rebalancing facility during surgery</p> <ul style="list-style-type: none"> • Xenon lamp illumination systems of up to 400W with another independent xenon light back up with auto ignition capability reboot time incase of power failure preferably less than 30 seconds • It should integrate with the main HD Ceiling mounted navigation platform & Intraoperative MRI • Should have internal, motorized, high speed dual laser autofocus. Facility for mouth switch and foot control • Facility for HD video recording with different focus and magnification independent of surgeon's view • Full HD camera/ recording system with latest processor with storage & Dual layer DVD-R/ CD-R with HD Input and output with MPEG-4 recording, USB connections with DICOM compatibility. Built in Full HD display panel (Pixel resolution more than 1080X1200 with panel size preferably more than 22 inches with touch pad or keyboard control) • Technical facility for wireless transfer of still images and videos to external storage media • Autodrape integrated vacuum system to remove air from sterile drapes • The microscope integration should deliver Heads up display and image injection module into the microscope eyepiece provided the microscope itself has those features. • Accessories: 25 disposable drapes for microscope <p>6. Ceiling mounted OR lights with integrated camera:</p> <ul style="list-style-type: none"> • Operating Room should have two high-end surgical OR lights with dual arm system and one integrated video camera with High illumination intensity, low heat radiation and easy-to-operate swivel arms. <p>7. MR compatible OR equipment & Anesthesia System: Set of boom and spring arms to be installed in the OR to hold monitors, surgical and anesthesia eqpt. The following devices should also be available:</p> <ul style="list-style-type: none"> • Syringe Pump MRI compatible – Qty 04 • MR-compatible drug administration system for exact medication dosage – Qty 01 • Patient Monitoring System - MRI compatible – Qty 01 • Anesthesia Ventilation System: High-end, fully MR-compatible mobile anesthesia device – Qty 01 • At least one full set of MR compatible surgical instruments to cover all cranial operative procedures – Qty 01 • MR compatible ultrasonic aspirator – Qty 01 • MRI compatible Stool/ Chair – Qty 02 • MR safe I.V Pole 4 hook system – Qty 02 <p>8. Room Control & OR Power Management System:</p> <ul style="list-style-type: none"> • System should offer Software and hardware system to control electrical power circuits within OR. Should offer Control from inside through
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		<p>wall-integrated, MR-shielded touch screen or from outside through dedicated workstation at MR Console.</p> <ul style="list-style-type: none"> • Individual control of OR and control room illumination (down lights, area lights), OR light, microscope, touch screen and IR cameras, Digital OR monitors, and all non-life-saving power circuits should be offered. • System should offer Hardware for distribution and control of all power supply for all the devices and components in the Operating Suite. • Provision for Power cabinets optimized for high availability through supply from multiple feed-ins and fall back functions in case of main feed failure should be provided. <p>9. RF-Shielding, Interior Walls, Air Conditioning:</p> <ul style="list-style-type: none"> • It should have modular, MR-compatible and MR-shielding OR wall, ceiling and floor system including the necessary cuttings and recesses for the installation of individual outlets for air conditioning, electricity and gas. • <p>10. Installation:</p> <ul style="list-style-type: none"> • Computer hardware, software, OR equipment and other devices should be latest at the time of installation and should be upgradeable as per future requirements. <p>11. Miscellaneous:</p> <ul style="list-style-type: none"> • Training: Full Training should be conducted to operation room staff. Local and overseas training should be covered for OR technicians and medical staff. • Space required for installation of NEURO OT SUITE including all the necessary approvals for building plan etc shall be provided by the hospital. 														
26	Neuronavigation	<p>Technical Specifications</p> <table border="1"> <thead> <tr> <th>Sno.</th> <th>Required Technical Specifications</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>System Specification:</td> </tr> <tr> <td>1.01</td> <td>The system should be easy to set up, user friendly, intuitive and should work under Windows/Linux/Unix operating system environment.</td> </tr> <tr> <td>1.02</td> <td>It should have Optical, laser guided and advanced wireless passive marker tracking technology</td> </tr> <tr> <td>1.03</td> <td>The system should have touch-sensitive screen and could be used in sterile field. The display should be of Full HD resolution (1920X1080) with minimum 20 Inch wide screen</td> </tr> <tr> <td>1.04</td> <td>The system should be plug n play and system software should be user friendly wizard guided to control set up, registration and navigation procedure.</td> </tr> <tr> <td>1.05</td> <td>It should have Rapid data transfer directly to the navigation station with the option of USB 2.0 port for direct data import and also have direct and</td> </tr> </tbody> </table>	Sno.	Required Technical Specifications	1.	System Specification:	1.01	The system should be easy to set up, user friendly, intuitive and should work under Windows/Linux/Unix operating system environment.	1.02	It should have Optical, laser guided and advanced wireless passive marker tracking technology	1.03	The system should have touch-sensitive screen and could be used in sterile field. The display should be of Full HD resolution (1920X1080) with minimum 20 Inch wide screen	1.04	The system should be plug n play and system software should be user friendly wizard guided to control set up, registration and navigation procedure.	1.05	It should have Rapid data transfer directly to the navigation station with the option of USB 2.0 port for direct data import and also have direct and
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		seamless integration with the hospitals PACS system
	1.06	The machine should have a central home bottom which ensure direct navigation and return to the main screen
	1.07	The system should identify new instruments for tracking using the universal tracking system
	1.08	The system must have dynamic referencing so that registration is not lost even if the camera or patient moves.
	1.09	It Should be HIPPA compliant including authentication, accountability log and automatic log-off features
	1.10	The navigation system should be operable without keyboard or mouse
	1.11	It should have separate mobile cart for the camera stand for flexible positioning
	1.12	The mobile stand for the camera should be telescopic with pneumatic braking to take care of line of sight issues
	1.13	It should be capable of Interactive DICOM viewing which allows standalone as well as clinical use of DICOM images (CT, MRI etc) to be viewed, manipulated as per the surgical orientation and clinical need of the planned Neurosurgical procedure
	1.14	The navigation system should be operable without keyboard and mouse
	1.15	The system should be capable of loading Cranial & Spinal applications for Craniotomies, Skullbase tumors, Deep-seated Cranial Biopsies & Complex Spinal surgery.
	2.	Cranial Navigation Specifications:
	2.01	The system should have pre-operative planning using the DICOM images for pre-operative Neurosurgical planning.
	2.02	The system should allow DICOM images in Axial, Sagittal or Coronal planes should be reconstructed as 3D images and advanced cranial planning can be done on any plane and should be adapted to all planes automatically
	2.03	To avoid additional scanning cost for the patient, the system should not use fiducial based or facial mask based surface registration.
	2.04	The system should have automatic image fusion capabilities of pre-operatively acquired DICOM images in the form of CT, MR, fMRI (DTI & BOLD), PET or SPECT
	2.05	The software should automatically fuses axial, coronal and sagittal plane image sets of different modalities.

		<p>2.06 It should allow touch based planning for Neurosurgical procedures and should allow to contour structures/ lesion/ important landmarks with advanced visualization of 3D objects with volumetric information, Trajectories for all Cranial procedures including transnasal approach.</p>	
		<p>2.10 The system should allow patient registration in both supine & prone position using – Skin sensitive touch device for maximum accuracy in prone position Laser registration device for markerless/touch free & fast registration</p>	
		<p>2.11 The system should display of a predefined trajectory pathway, inline and probe eye views.</p>	
		<p>2.12 The probe should have capability to show images at 0mm - 100mm in front of it (Tool Tip Extension). The virtual tip should be differentiated from real tip by color.</p>	
		<p>2.13 The system should have sub-millimetric patient accuracy ideal for deep seated Cranial biopsies; at the same time the system should also have the accuracy verification/ prediction system in-built in the system.</p>	
		<p>2.14 The system should have screenshot storage function for documentation purpose</p>	
		<p>2.15 It should have universal instrument adapters with passive markers to allow tracking of any existing hospital instruments like drills, bipolar, knife, Awl, Probe, endoscopes.</p>	
		<p>2.16 Calibration of existing instruments should be done automatically. System should automatically identify new instruments for tracking.</p>	
		<p>2.17 The system should allow free hand frameless biopsy capabilities and both Framebased as well as Frameless biopsy should be included as a part of the system</p>	
		<p>2.18 It should include the Frameless biopsy system that should allow online tracking of biopsy needle according to pre-planned trajectory</p>	
		<p>2.19 The frameless biopsy system should include sterilizable, wireless & pre-calibrated alignment array</p>	
		<p>3. Ultrasound Integration</p>	
		<p>3.01 System must have Intraoperative Ultrasound imaging software for brain shift compensation, tumor delineation & resection.</p>	
		<p>3.02 The system should have integration with available Ultrasound at the hospital with Intra-cranial probes from any reputed international</p>	

		supplier. The existing Intracranial Ultrasound probe to be integrated is <Kindly fill>
	3.03	The Ultrasound navigation software should be able to co-relate with pre-operative MR/CT images. These images should have view side by side or overlaid.
	3.04	The system should capture & display live USG video images. It should reconstruct & perform the 3D overlay on the intra-operatively acquired USG images
	3.05	The system should then allow to perform the Updation of the real time by moving the object to the current position compensating for the 'Brainshift'
	3.06	All related Instrumentations & adapters for USG integration should be a part of the system
	4.	Spinal Navigation Specifications:
	4.01	The system should also have the facility to independently use <i>pre-operatively acquired CT</i> images for spinal application as well as <i>live fluoro integration (C-arm)</i> . The integration should be possible with any 2D C-arm (Round bore or Flat panel).
	4.02	The C-arm integration should also allow to automatically fuse the pre-acquired CT image with the live fluoro image so that difficulty in registering the thoracic & Cervical region because of the interference of ribs & shoulder can be compensated.
	4.03	With the auto fusion of CT & live fluoro, the system should allow to surgeon to register the patient on live fluoro c-arm and thereby allowing the clinician to simultaneously work on the CT images with 3D reconstruction
	4.04	The system should have an interactive planning of spinal implant position and angle.
	4.05	The system should have an Intra-operative planning of trajectories & Virtual real time view for comprehensive instruments and implants during the spinal surgical procedure.
	4.06	The probe should have capability to show images at 0mm - 100mm in front of it (Tool Tip Extension). The virtual tip should be differentiated from real tip by color.
	4.07	The drill guide system should give the ability to use the pre-calibrated drill guide with adjustable depth control to navigation in thoracic, lumber, cervical & sacral cases. It should include: <ul style="list-style-type: none"> - Drill guide tubes of different sizes - Drill guide tubes & drill bits with standard fittings & depth control - Pre-calibrated Drill guide handle

		<p>4.08 The system should have screenshot storage function for documentation purpose</p>
27	DSA machine with biplanner C arm with DSA & CT facility	<p>Generator microprocessor controlled high frequency, 2 kW or more, integrated beam filters to reduce skin radiation.</p> <p>Collimator with octagonal, parallel, compensating filter. All programmable by anatomy. Virtual collimation non last image hold.</p> <p>x-ray mode(kV or mA range(KV range 40-110KV fluoroscopy 5mA or more, multidose options, pulsed fluoroscopy with last image hold.</p> <p>Radiography- for cassette exposure min. of 20mA, X-ray tube should be stationary anode 90KHU or more, focal spot 0.6mm or smaller.</p> <p>Image intensifier 9” or more, multimode with CCD camera.</p> <p>Image chain medical grade CCD. Last image hold with image recall.</p> <p>Cassette holder.</p> <p>Image display on 2 17” high resolution, high contrast and flicker free monitors.</p> <p>System- all locks release by single touch operation.including II handle.vertical operation with counter balance. Cables inside the C arm preferred. Verticle, horizontal,orbital travel available wih C arm rotation 135 degree or more.</p> <p>System should perform DSA with acquisition of 3 frames per second or more, real time and peak hold, road mapping, annotation, remasking and multi image display with storage capability of 5000 images or more.</p> <p>Assesories-</p> <p>Wrap around light weighted vinyl lead apron with 0.5mm lead equivalence certified by BARC or AERB or ISO:2 2 in no.</p> <p>Dicom miniwork station with redundant power supply, 2 gb ram or higher, 18” flat LCD monitor, windows 7 professional, 2 usb ports one lan port, dvd drive R/W, key board, mouse,</p> <p>DCOM software should have capacity to post process, dicom print to dicom printer. UPS of 7.5 KVA for entire system including the C- Arm with 30 min back up.</p>
28	Operating microscope	<p><u>Technical Specification for Neurosurgery microscope</u></p> <p>Motorized zoom magnification 1:6ratio</p> <p>Maximum magnification upto 18.5 x or more</p> <p>Objective multi focal lens 200-500mm variable focal length with auto focus through microscope</p> <p>Variable working distance range of 300mm (from 200-500mm), motorized, manual and via laser autofocus integrated within the stand.</p> <p>Pair of wide-field eyepieces for spectacle wearers 12.5x dioptic setting +5D to -8D</p> <p>Ergonomic handles with buttons for motorized control of focus, zoom, axis movement, with programmable keys.</p> <p>Microscope should be compatible with DICOM and Neuronavigation system integrated within the microscope stand.</p> <p>Facility for adjusting speed of the focusing motor to adapt for different magnifications.</p> <p>300w xenon illumination with 300w xenon back up in same illumination module through the fiber optic cable with semiautomatic lamp changeover</p>

		<p>facility integrated within the stand. Inclinable binocular tube, inclinable over range of minimum 0-180°. Facility for dual beam laser auto focus system- mandatory Vacuum auto drape system for complete microscope head . Photography re cording of still/video/digital image+ other teaching aids integrated within the stand. Floor stand with contraves technology and graphical screen for all functions of the system zoom, illumination, focus video etc. Complete auto balance of whole system by single push of a button for microscope body and microscope stand even intra-operatively. Stereoscopic co observation attachment for second observer with tilt able eyepieces, minimum 0-180° should remain fixed when tilting of main microscope. Face to face co-observation binocular tube attachment for assistant as in spinal surgeries. Integrated 3-chip CCD camera, 3 CCD camera should be integrated in the microscope body without any external cables & attachments. Integrated digital video recording facility with appropriate video editing software Full Multifunctional wireless footswitch. Should have additional integrated illumination beam path to brighten shadows. Should have adjustable, ergonomic handgrips, symmetrical and attached clearly above the bottom edge of microscope, multifunctional key assignment with minimum 4 freely programmable keys and a joystick for motorized XY fine adjustment/operation of navigation functions.</p>																							
29	Neuroendoscope Pituitary set	<table border="1"> <thead> <tr> <th>No</th> <th>Instrument</th> <th>Specification</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0 degree scope</td> <td>Straight Forward Telescope 0°, enlarged view, diameter 4 mm, length 18 cm, autoclavable. Fiber optic light transmission incorporated. Should be USA FDA & CE Approved</td> </tr> <tr> <td>2</td> <td>Sheath</td> <td>Suction and Irrigation Sheath 0°, for endoscopic diagnosis and surgery of the paranasal sinuses and anterior skull base, oval, O.D. 4,8 mm x 6 mm, with separate channel for suction and irrigation Should be USA FDA & CE Approved</td> </tr> <tr> <td>3</td> <td>30 degree scope</td> <td>Forward-Oblique Telescope 30°, enlarged view, diameter 4 mm, length 18 cm, autoclavable. Fiber optic light transmission incorporated. Should be USA FDA & CE Approved</td> </tr> <tr> <td>4</td> <td>Sheath</td> <td>Suction and Irrigation Sheath 30°, for endoscopic diagnosis and surgery of the paranasal sinuses and skull base, oval, O.D. 4,8 mm x 6 mm, with separate channel for suction and irrigation Should be USA FDA & CE Approved</td> </tr> <tr> <td>5</td> <td>45 degree scope</td> <td>Forward-Oblique Telescope 45°, enlarged view, diameter 4 mm, length 18 cm, autoclavable. Fiber optic light transmission incorporated. Should be USA FDA & CE Approved</td> </tr> <tr> <td>6</td> <td>Sheath 45 degree</td> <td>Suction and Irrigation Sheath 45°, for endoscopic diagnosis and surgery of the paranasal sinuses and</td> </tr> </tbody> </table>	No	Instrument	Specification	1	0 degree scope	Straight Forward Telescope 0°, enlarged view, diameter 4 mm, length 18 cm, autoclavable. Fiber optic light transmission incorporated. Should be USA FDA & CE Approved	2	Sheath	Suction and Irrigation Sheath 0°, for endoscopic diagnosis and surgery of the paranasal sinuses and anterior skull base, oval, O.D. 4,8 mm x 6 mm, with separate channel for suction and irrigation Should be USA FDA & CE Approved	3	30 degree scope	Forward-Oblique Telescope 30°, enlarged view, diameter 4 mm, length 18 cm, autoclavable. Fiber optic light transmission incorporated. Should be USA FDA & CE Approved	4	Sheath	Suction and Irrigation Sheath 30°, for endoscopic diagnosis and surgery of the paranasal sinuses and skull base, oval, O.D. 4,8 mm x 6 mm, with separate channel for suction and irrigation Should be USA FDA & CE Approved	5	45 degree scope	Forward-Oblique Telescope 45°, enlarged view, diameter 4 mm, length 18 cm, autoclavable. Fiber optic light transmission incorporated. Should be USA FDA & CE Approved	6	Sheath 45 degree	Suction and Irrigation Sheath 45°, for endoscopic diagnosis and surgery of the paranasal sinuses and		
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1	0 degree scope	Straight Forward Telescope 0°, enlarged view, diameter 4 mm, length 18 cm, autoclavable. Fiber optic light transmission incorporated. Should be USA FDA & CE Approved																							
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3	30 degree scope	Forward-Oblique Telescope 30°, enlarged view, diameter 4 mm, length 18 cm, autoclavable. Fiber optic light transmission incorporated. Should be USA FDA & CE Approved																							
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5	45 degree scope	Forward-Oblique Telescope 45°, enlarged view, diameter 4 mm, length 18 cm, autoclavable. Fiber optic light transmission incorporated. Should be USA FDA & CE Approved																							
6	Sheath 45 degree	Suction and Irrigation Sheath 45°, for endoscopic diagnosis and surgery of the paranasal sinuses and																							

		anterior skull base, oval, O.D. 4,8 mm x 6 mm, with separate channel for suction and irrigation Should be USA FDA & CE Approved
7	Cleaning handle	Suction and Irrigation Handle, with Push-Button Pressure Valve, for use with suction and irrigation sheath consisting of: Suction and Irrigation Handle, Push-Button Pressure Valve Should be USA FDA & CE Approved
8	Scissors	Nasal Scissors, medium standard model, working length 9.5 cm Should be USA FDA & CE Approved
9	Forceps	Nasal Forceps, 45°, upturned, working length 11 cm, size 1 Should be USA FDA & CE Approved
10	Forceps	Nasal Forceps straight, size 1, working length 11 cm Should be USA FDA & CE Approved
11	Punch	Antrum Punch, backward cutting, sheath 360° rotatable, with fixing screw, working length 10 cm, take apart sheath, for use with cleaning adaptor Should be USA FDA & CE Approved
12	Punch	Punch, circular cutting, for sphenoid, ethmoid and choanal atresia, diameter 3.5 mm, with cleaning connector, working length 18 cm Should be USA FDA & CE Approved
13	Curette	Suction- Curette, with round wire, ID 5 mm, tip angled 45°, length 25 cm Should be USA FDA & CE Approved
14	Curette	Suction, Curette, basket-shape, round wire, size 5 mm, rotating tubing- connector, length 25 cm, Should be USA FDA & CE Approved
15	Scissors	Scissors, 45°, delicate, Sheath 360° rotatable, working length 18 cm Should be USA FDA & CE Approved
16	Bipolar	Bipolar Grasping Forceps, size 3,4 mm, length 20 cm Should be USA FDA & CE Approved
17	Forceps	Forceps Insert for bipolar grasping forceps, size 3 mm, length 20 cm Should be USA FDA & CE Approved
18	Bipolar	Bipolar Forceps, width 4 mm, distally angled 45°, horizontal closing, size 3,4 mm, working length 20 cm Should be USA FDA & CE Approved
19	Bipolar	Bipolar Forceps Insert, 4 mm, distally angled 45°, horizontal closing, length 20 cm Should be USA FDA & CE Approved
20	Bipolar	Bipolar Forceps, width 2 mm distally angled 45°, horizontal closing, outer diameter 3,4 mm, working length 20 cm Should be USA FDA & CE Approved
21	Bipolar	Bipolar Forceps Insert, 2 mm, distally angled 45°, axial closing, size 3 mm, length 20 cm Should be USA FDA & CE Approved
22	Cord	Bipolar High Frequency Cord

		Should be USA FDA & CE Approved
23	Knife	scalpel, with telescopic blade, consisting of: Handle, outer tube and Micro-knife, sickle-shaped Should be USA FDA & CE Approved
24	Knife	Round Knife, vertical, 3.5x2.5mm length 25 cm, with round handle Should be USA FDA & CE Approved
25	Dissector	Dissector, sharp, round spatula, tip angled 45°, size 3 mm, with round handle, length 25 cm Should be USA FDA & CE Approved
26	Elevator	Elevator, double-ended semi-sharp and blunt, length 26 cm Should be USA FDA & CE Approved
27	Unipolar Suction	Coagulation Ball Electrode, diameter 2 mm, laterally curved, working length 13 cm Should be USA FDA & CE Approved
28	Elevator	Elevator, double-ended angulated semi-sharp shovel blade, blunt end slightly curved, length 26 cm Should be USA FDA & CE Approved
29	Suction	Suction Tube, ø 2 mm, length 25 cm, malleable, lateral suction holes Should be USA FDA & CE Approved
30	Curette	Ring- Curette, horizontal, round wire, ID 5 mm, long curved, with round handle, length 25 cm Should be USA FDA & CE Approved
31	Curette	Ring- Curette, round wire, ID 3 mm, tip angled 90°, with round handle, length 25 cm Should be USA FDA & CE Approved
32	Adopter	Adaptor, autoclavable, facilitates changing of telescopes in sterile conditions Should be USA FDA & CE Approved
33	Knife blade	Micro Knife, sickle-shaped, alone Should be USA FDA & CE Approved
34	Suction	Insulated Cannula for suction and coagulation, O.D.: 3 mm, 90° curved, working length 16cm Should be USA FDA & CE Approved
35	Suction	Insulated Cannula for suction and coagulation, O.D.: 3,6 mm, 90° curved, working length 16cm Should be USA FDA & CE Approved
36	Forceps	Forceps, very delicate, oval cupped jaws 0.9 mm, straight, working length 18 cm Should be USA FDA & CE Approved
37	Forceps	Forceps, round cupped jaws, diameter 0.6 mm, extra delicate, straight, working length 18 cm Should be USA FDA & CE Approved
38	Scissors right	Scissors, curved to right, with small handle, with cleaning connector, working length 18 cm Should be USA FDA & CE Approved
39	Scissors left	Scissors, curved to left, with small handle, with cleaning connector, working length 18 cm Should be USA FDA & CE Approved
40	Scissors	Scissors, curved upwards, with small handle, with

				cleaning connector, working length 18 cm Should be USA FDA & CE Approved
		41	Forceps	Nasal Forceps, with extra fine flat jaws, through-cutting, tissue sparing, width of cut 1.5 mm, straight sheath, straight jaws, with cleaning connector, working length 118 cm Should be USA FDA & CE Approved
		42	Forceps	Nasal Forceps, with extra fine flat jaws, through-cutting, tissue sparing, width of cut 1.5 mm, straight sheath, jaws angled downwards 45°, with cleaning connector, working length 18 cm Should be USA FDA & CE Approved
		43	Punch	Punch, upbiting 60° forward, size 1 mm, working length 17 cm Should be USA FDA & CE Approved
		44	Punch	Punch, upbiting 60° forward, size 2 mm, working length 17 cm Should be USA FDA & CE Approved
		45	Punch	Punch, downbiting 60° forward, size 1 mm, working length 17 cm Should be USA FDA & CE Approved
		46	Punch	Punch, downbiting 60° forward, size 2 mm, working length 17 cm Should be USA FDA & CE Approved
		47	Forceps	Nasal Forceps, 45° upturned, through-cutting, tissue-sparing, size 0, width 3 mm, with cleaning connector, working length 13 cm Should be USA FDA & CE Approved
		48	Forceps	Nasal Cutting Forceps, jaws upturned 15°, through-cutting, extremely powerful resection, patented uniform force transmission for gently controlled cutting, new ergonomic handle design, width of cut 2.7 mm, with cleaning connector, working length 13 cm Should be USA FDA & CE Approved
		49	Forceps	Nasal Cutting Forceps, straight, through-cutting, extremely powerful resection, patented uniform force transmission for gently controlled cutting, new ergonomic handle design, size 1, 8 x 3 mm, with cleaning connector, working length 13 cm Should be USA FDA & CE Approved
		50	Curette	Curette, bendable up to 90°, round spoon, size 3.5 mm, working length 20cm Should be USA FDA & CE Approved
		51	Curette	Curette, round, bendable up to 90°, size 3.8 mm, working length 20 cm Should be USA FDA & CE Approved
30	Neuroendoscope Spine set	No	Instrument	Specification
		1	Localization Device	Localization Device, for fluoroscopic determination of the point of incision for ENDOSPINE Operating Tube Should be USA FDA & CE Approved

		2	Tube	ENDOSPINE Operating Tube oval, with obturator , for use with working insert Should be USA FDA & CE Approved
		3	Working insert	ENDOSPINE Working Insert with positioning detend, for use with ENDOSPINE operating tube , with working channel diameter 8 mm, with irrigation channel for use with scope , with adjustable nerveprotector Should be USA FDA & CE Approved
		4	Chisel	Chisel, flat, straight, with handle, distal width 15 mm, working length 9 cm Should be USA FDA & CE Approved
		5	Suction	FERGUSON Suction Tube, angled, with cut-off hole, diameter 3.7 mm, working length 11 cm Should be USA FDA & CE Approved
		6	0 degree scope	HOPKINS II Straight Forward Telescope 0°, enlarged view, diameter 4 mm, length 18 cm, autoclavable. Fiber optic light transmission incorporated. Color code: green Should be USA FDA & CE Approved
		7	Punch 90	Bone Punch, 90°, upbiting, 3 mm, working length 18 cm Should be USA FDA & CE Approved
		8	Punch 45	Bone Punch, 45°, forwards upbiting, 3 mm, working length 18 cm Should be USA FDA & CE Approved
		9	Hook	Palpation Hook, blunt, distally angled 90°, hook length 5.5 mm, working length 13 cm Should be USA FDA & CE Approved
		10	Elevator	Elevator, spatula slightly curved, distal width 5 mm, working length 13 cm Should be USA FDA & CE Approved
		11	Trephine	Trephine, diameter 3mm, working length 22cm Should be USA FDA & CE Approved
		12	Spoon Forceps	Spoon Forceps, heavy, oval, spoonsize 3x10 mm, single action jaws, working length 15 cm Should be USA FDA & CE Approved
		13	Bipolar Probe	Take-apart Bipolar Coagulating Forceps, width of jaws 1 mm, diameter 5 mm, working length 20 cm, consisting of: Ring Handle Outer Tube, Insert Forceps, only Should be USA FDA & CE Approved
		14	Bipolar Cord	Bipolar High Frequency Cord with 2 x 4 mm banana-plug to Coagulator 26020 XA/ XB Valleylab, length 300 cm Should be USA FDA & CE Approved

3 1	Neuroendoscope Intraventricular scope	No	Instrument	Specification	
		1	Operating Sheath	Operating sheath for ventriculoscope, outer diameter 6.8 mm, working length 13.3 cm Should be USA FDA & CE Approved	
		2	Obturator	Optical Obturator used with 0° Scope Should be USA FDA & CE Approved	
		3	0° Scope	Forward Oblique- Telescope 0°, enlarged view, diameter 2 mm, length 26 cm, autoclavable, fiber optic light transmission incorporated Should be USA FDA & CE Approved	
		4	Operative Scope	Ventriculoscope Wide Angle Straight Forward Telescope 6°, angled eyepiece, outer diameter 6.1 mm, length 18 cm, working channel diameter 2.9 mm, irrigation/suction channel diameter 1.6, autoclavable, fiber optic light transmission incorporated Should be USA FDA & CE Approved	
		5	Ventriculostomy Forceps	360 degree rotatable Ventriculostomy Forceps, diameter 2.0 mm, working length 30 cm Should be USA FDA & CE Approved	
		6	Scissors	360 degree rotatable Scissors, single action jaws, pointed, 2.0 mm, working length 30 cm Should be USA FDA & CE Approved	
		7	Biopsy Forceps	360 degree rotatable Biopsy Forceps, both jaw parts movable, Ø 2.0 mm, working length 30 cm Should be USA FDA & CE Approved	
		8	Grasping Forceps	360 degree rotatable Grasping Forceps with teeth, 2.0 mm, working length 30 cm Should be USA FDA & CE Approved	
		9	Scissors	Scissors, pointed, lightly curved jaws, double action jaws, diameter 1,7 mm, length 30 cm Should be USA FDA & CE Approved	
		10	Ventriculostomy Forceps	Ventriculostomy Forceps, diameter 1.0 mm, flexible, working length 30 cm Should be USA FDA & CE Approved	
		11	Biopsy Forceps	Biopsy Forceps, double action jaws, flexible, diameter 1 mm, working length 30 cm Should be USA FDA & CE Approved	
		12	45 Degree Telescope	Telescope 45°, enlarged view, ø 3.3 mm, length 25 cm, autoclavable, fiber optic light transmission incorporated, Should be USA FDA & CE Approved	
		13	Needle	Injection Needle, flexible, diameter 2.5 mm, working length 45 cm, disposable Should be USA FDA & CE Approved	
		14	Puncher Needle	Puncture Needle Should be USA FDA & CE Approved	
		15	Cogulator	Coagulating Electrode, bipolar, 5 Fr. Should be USA FDA & CE Approved	
16	Bipolar	TAKE-APART Bipolar Forceps, long, flat jaws, outer diameter 2.4 mm			

				Should be USA FDA & CE Approved	
		17	Cord	Bipolar High Frequency Cord with 2 x 4 mm banana-plug , length 300 cm Should be USA FDA & CE Approved	
3 2	Neuroendoscope Shunt scope	No	Instrument Name	Specification	
		1	Miniature Scope	Shunt-Scope: Miniature Straight Forward Telescope 0°, diameter 1 mm, length 16 cm, semi-rigid, with remote eyepiece and light connection, LUER-Lock adaptor, fiber optic light transmission incorporated, should have accessories: case, protecting tube Should be USA and FDA Approved	
		2	Sheath for Scope	Examination Sheath, O.D. 1.3 mm, working length 16 cm, with blunt obturator, 1 LUER-lock adaptor, for use with miniature shunt scope. Should be USA and FDA Approved	
		3	Light Cable	Fiber Optic Light Cable, size 2.5 mm ø, length 230 cm compatible to miniature scope. Should be USA and FDA Approved	
		4	Tray	Metal Tray, for sterilization and storage of Miniature Straight Forward Telescope and two perforated, lid with silicone bridges, external dimensions (w x d x h): 373 x 178 x 35 mm Should be USA and FDA Approved	
3 3	CUSA	<p>Ultrasound aspirator for neurosurgical purpose with simultaneous, & coaxial suction & irrigation. Adjustable aspiration frequency useable for neurosurgery, general surgery(open or laparoscopic), urology, plastic surgery etc. aspiration pressure 0-508mmhg(fluidic mode) foot switch controls, preset modes. Error code displays, displays staining posts- irrigation, aspiration, vibration status indicator, other alarms. Light weighed, ergonomically designed hand pieces straight, angled, straight extended, angled extended CAVI pulse vibration mode & CEM system(CUSA electro-surgical module) for independent and simultaneous electro-surgical capability through handpiece tip. Meets BSI, CLA, TEC FDA clearance, CE mark, worldwide marketing.</p>			
	High speed drills Electrical	Under process of R/c hence deleted			
3 4	Pneumatic motor	<p>Pneumatic motor with 360degree swivel Foot control –open padel design for easy access and repositioning, variable speed , water proof. Compress gas nitrogen or dry filtered compressed air Pressure bar 2-8 bar(20-120 psi) consumption, cfm 1-8 cfm flow(28.3l/min to 226.4l/min Weight 2 ounce. Chuck type direct driven quick connect. Sterilization method flash or regular steam autoclave- high vacuum, prevacuum or gravity displacement or EO sterilization for all</p>			

		<p>drill, hose pipes. No oil lubrication. Sound level 70-76Db at 18 inches. Motor speed upto 80000rpm according to operatots desecration. Craniotome attachment available in fixed and rot table in three sizes, to cater to peadiatric cases to adult with thick skull bone. Simple 3 step quick release, having tapered design for better surgical visibility. Attachments for spinal surgerystraight, variable straight, angled, variable angled, metal cutter attachment. Variable length attachments to vary the tool exposure lengths for optimal visibility without touching the tool tip. Should be adjustable in 1 mm increments upto 12mm. simple 3 step quick release, different length and geometry suitable for different procedures, color coded for identification. Should fit into pneumatic/ electrical drill and attachments for endoscopic surgeries. Hooded telescopic tubes, straight and curved, outer diameter <5mm, inner diamenter 1.2mm-1.5 mm. tubes should be of length 12cm, 15cm hooded, 17cm. Bone mill option should be there for crushing bone for bone grafting</p>																																										
3 5	Operating tables with neuroattachmen ts	<p>Remote control and additional console on table or foot switch, suitable for all cranial and spinal procedures, four or more pieces, compatible with image intensifier and neuronavigation, offer various positions of the patient- supine, sitting, lateral, prone, height adjustable upto 2 feet above ground.well cushioned.</p>																																										
3 6	Intraoperative USG	<p>With portable laptop which can be incorporated easily with the neuronavigation system based on CT or MRI. High resolution probes for visualizing brain parenchyma with clear tissue depiction, Doppler enabled.</p>																																										
3 7	Sugita head clamp	Compatible with CT/MRI for intraoperative neuroimaging																																										
3 8	Mayos head clamp	Compatible with CT/MRI for intraoperative neuroimaging																																										
3 9	Aneurismal clips with all applicators	<p><u>. YASARGIL 2. YASARGIL Aneurysm Clip System</u> <u>Titanium Standard Clips</u></p> <p>TEMPORARY</p> <table border="1"> <thead> <tr> <th rowspan="2"></th> <th rowspan="2">Blade length mm</th> <th rowspan="2">Maximal Opening Mm</th> <th colspan="2">Closing force</th> </tr> <tr> <th>N</th> <th>G</th> </tr> </thead> <tbody> <tr> <td>Straight</td> <td>7.0</td> <td>6.2</td> <td>1.08</td> <td>110</td> </tr> <tr> <td>Straight</td> <td>9.0</td> <td>7.0</td> <td>0.88</td> <td>90</td> </tr> <tr> <td>Forward Curved</td> <td>6.5</td> <td>6.0</td> <td>1.08</td> <td>110</td> </tr> <tr> <td>Forward Curved</td> <td>8.3</td> <td>6.8</td> <td>0.88</td> <td>90</td> </tr> <tr> <td>Forward Curved</td> <td>8.0</td> <td>6.5</td> <td>1.08</td> <td>110</td> </tr> <tr> <td>Bayonet</td> <td>7.0</td> <td>7.9</td> <td>0.88</td> <td>90</td> </tr> <tr> <td>Side Angle</td> <td>8.0</td> <td>6.2</td> <td>1.08</td> <td>110</td> </tr> </tbody> </table>		Blade length mm	Maximal Opening Mm	Closing force		N	G	Straight	7.0	6.2	1.08	110	Straight	9.0	7.0	0.88	90	Forward Curved	6.5	6.0	1.08	110	Forward Curved	8.3	6.8	0.88	90	Forward Curved	8.0	6.5	1.08	110	Bayonet	7.0	7.9	0.88	90	Side Angle	8.0	6.2	1.08	110
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Right Angle	7.0	4.5	1.28	130
Right Angle	9.0	5.6	1.28	130

Titanium Fenestrated Clips

TEMPORARY

	Blade length mm	Maximal Opening mm	Closing force	
			N	G
Staright	3/8.1	7.5	1.08	110
Staright	9/14.1	8.4	1.08	110
Staright	3/9.8	7.4	1.08	110
Forward Curved	5/9	6.5	1.08	110

//2//

Titanium Mini Clips

TEMPORARY

Cat No.	Blade length mm	Maximal Opening mm	Closing force	
			N	G
Staright	5.0	4.0	0.69	70
Forward Curved	4.0	3.6	0.78	80
Forward Curved	4.7	4.0	0.69	70

Titanium Clip Applier

Clip Applier

90mm, 3¹/₂" × 220, 8³/₄"

Clip Applier

50mm, L" × 180mm 7"

90mm, 3¹/₂" × 220, 8³/₄"

110, 4 5/8" × 250, 10"

Titanium Clip Applier

90mm, 3¹/₂" × 220, 8³/₄"

110mm, 4 3/8" × 240mm, 9¹/₂"

Titanium Clip Removing Forceps

YASARGIL Removing Forceps

90mm, 3¹/₂" × 220mm, 8 3/8"

110mm, 4 3/8" × 250mm, 9 3/8"

//3//

Storage :

Clip Tray 1/1

For Storage, transport and sterilization of Aesculap YASARGIL

		<p>Aneurysm Clips Autoclavable plastic Fits 1/1 standard container 34 storage compartments for Standard and Mini Clips 4 Storage compartments for Long Clips With special identification tags for individual tray configuration.</p> <p>Storage of applying forceps Perforated basket with lid, for storage of clip applying forceps.</p>						
4 0	Patient slide	Light weighted, heavy duty to transfer /roll over patients form trolley on table or vise versa.						
	Fowlers bed	Under process of R/c hence deleted						
4 1	Craniotomy set	<p>Raney's clip apply and removing forceps Galea self retaining retractor, spring and hook type Dandy's curved hemostats(24 in no. for one set) Adson's forceps toothed 1;2 Sergeant's dural scissors Metzenbaum dural scissors, Periosteal elevators- straight, angled. Hudson's brace, ball lock system, extension piece,Light weighted, glare free can be used with disposable cutters, perforators, burrs and trephines of various sizes available in the markets of standard companies. Giggle saw guide and protector, saw handles. Double action Rongeurs for nibbling bones- straight, side angled, angled to upward and downward. Kerrison's bone punches- 2-4mm, 45degree and 90degree angled, up bite and down bite. Sr.No. Item Description Micro suction tips in S.S. diff. Sizes set of eight Non-glare finish 1 .5 mm to 5mm 6" Micro suction tips in S.S. diff. Sizes set of eight Non-glare finish 1 .5 mm to 5mm Length -.7" Micro suction tips in S.S. diff. Sizes set of .eight Non-glare finish 1 .5 mm to 5mm. Length: 9½" Kale Long Suction tip 3.0mm, 3.5mm,4.0mm 4. 5mm, 5. 0mm working length 12" Micro suction tips in S.S. diff. Sizes set of eight Non-glare finish 1.5 mm to 5mm. 6" Bulbous Tip Adson- lewis dura! dissecting forceps with 2x3 teeth, 127mm (5") Penny backer dissecting forceps with 3x4 Squat teeth, 165mm (6½") Karamchand trephines, with Hudson brace fitting,A. Diameter: 1.5" B. Diameter: 1.75" C. Diameter :2"(5 1mm) D. Diameter: 2¼" Cairns scalp retractor, curved, self-retaining with sharp swivel blade, 140mm (5VV") Schnitker scalp retractor, curved, self-retaining with blunt swivel blades. 140mm (5½")</p>						
4 2	Spinal sets	<table border="1"> <thead> <tr> <th>Sr.No</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Micro suction tips in S.S. cliff. Sizes set of eight Non-glare finish 1 .5mm to 5mm Length :7"</td> </tr> <tr> <td>2</td> <td>New design Suction cannula with detachable Tip length 7",8"</td> </tr> </tbody> </table>	Sr.No	Description	1	Micro suction tips in S.S. cliff. Sizes set of eight Non-glare finish 1 .5mm to 5mm Length :7"	2	New design Suction cannula with detachable Tip length 7",8"
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2	New design Suction cannula with detachable Tip length 7",8"							

	Bore 21g, 18g
3	HOEN Tissue Forceps, 1x2 teeth, bayonet shape, Gutsch handle Working distance : 3" (76mm) Tip width :2.1mm Length :7 7/8" (197mm)
4	GUSHING Dressing Forceps, serrated dissecting end Length 7" (178mm) A. Serrated Handle Tip Width 1.5mm
5	Cushing Type Tissue Forceps, 1 x2 Teeth, dissecting end Length 7" (178mm) □ A. Serrated Handle Tip Width 1.5mm
6	Metzenbaum Scissors straight with rounded blades, conical points, 241mm (9 1/2in.)
7	Metzenbaum Scissors curved with rounded blades, conical points, 241mm (9 1/2in.)
8	LANGENBECK, 19.5cm, 7 3/4", square edge 16mm rib Raspatories
9	LANGENBECK, 19.5cm, 7 3/4", square edge 18mm rib Raspatories
10	Adson Curved periosteal elevator, 5mm wide
11	Adson Curved periosteal elevator, 7 mm. wide
12	Adson Curved periosteal elevator, 10 mm. wide
13	CLOWARD INSTRUMENTS, Nerve Root Retractor, blade 8mm.(5/16 in) wide, length 210 mm (8 1/4") New Light weight & Malleable design
14	Love nerve root retractor, straight blade 5x5 mm
15	Nerve hook, single ended, 254 mm (10")
16	CLOWARD Lumbar Lamina Spreader# 2, Arm length 4 1/4" (108mm) Total Opening 2 1/8" (53mm)
17	Mayo-Adson Laminectomy retractor, hinged arms, 4x4 prongs blades, (12 1/2") long.
18	Beckman- Adson Laminectomy retractor, self-retaining with hinged arms, 4x4 prong sharp blades Blade Width : 1" (25mm) Blade Depth : 1 3/4" (44mm) Total Opening : 5 1/2" (140mm) Length : 12" (305mm)
19	Micro Lumbar dissection curettes, bayonet shaped, straight, length- 10 1/2", 264mm, size-2.5mm, 3.5mm
20	Williams Micro Discectomy Instruments are designed to be used in the microsurgical treatment of herniated disks.
21	Williams Micro Discectomy Instruments are designed to be used in the microsurgical treatment of herniated disks. Williams Instruments include: Williams Micro Lumbar Discectomy Retractor self-retaining wound retraction of deep exposure. Total length 7 1/2" 2 cm width, 7cm length
22	LISTON, Curved on flat 235 mm, 9 1/4", bone cutting forceps
23	LISTON, Straight 280mm, 11", bone cutting forceps
24	LUER-STILLE, 225mm, 9", bone Rongeur straight
25	Echlin (2 x 10mm), 9", bone Rongeur.

26	LEKSELL-STILLE, 240 mm, 9½ "bone Rongeur.
27	STILL RUSKIN, 230 mm, 9" Lamnectomy Bone Rongeur 3mm bite curved.
28	LUER Type Bone Rongeur Bite ¼"(6mm) Length 7" (178mm) A. Straight B. Curved
29	BOHLER Bone Rongeur 2mm bite curved Length6"
30	BOHLER Bone Rongeur 3mm bite curved Length6"
31	COBB Spinal Elevators Blade Width: 3/8" (10mm) Total Length: 11" (279mm)
32	COBB Spinal Elevators Blade Width: 3/4" (19mm) Total Length : 1 1" (279mm)
33	COBB Spinal Curette in different size 6mm
34	American Pattern Spinal Fusion Curettes, Straight 150mm, (6") 203mm. (Sin) long, inSS hollow handle for lesser fatigue & firm gripping 9 sizes:-Size 00. Size,1
35	American Pattern Spinal Fusion Curettes, angled 150mm. (6") 203mm.(8in.) long, in SS □hollow handle for lesser fatigue & firm gripping 9 sizes:-Size 1 Size 3
36	Scoville ruptured disc curette, straight, 3mm.
37	Scoville Modified Ruptured Disc Curette, with a angular cutting edge in order tocurette the cartilaginous plate within the intervertbral disc,254mm (10 in) angular in SShollow handle for lesser fatigue & firm gripping.
38	CASPAR Bone Curette,Square shaped toothed, 220mm,8¾"4mm.
39	CASPAR Bone Curette,Square shaped toothed, 220mm, 8¾"5mm.
40	CHISEL, Straight, Length: 11 "(279mm) A. Tip Width:3/8"(10mm) B. Tip Width: ¾"(19mm)
41	CHISEL, Curved, Length: 1 "(279mm) A. Tip Width: ¾ (19mm)
42	Osteotomes, straight , Length: 11 "(279mm) A. Tip Width:3/8"(10mm) B. Tip Width: ¾"(19mm)
43	Osteotomes, Curved,Length: 11 "(279mm) A. Tip Width: ¾"(19mm)
44	GUSHING RONGEUR 2X10/3MM 6"150mm STRAIGHT
45	LOVE- GRUENWALD RONGEUR 3X1 0/4MM 7"! 80mm STRAIGHT
46	LOVE- GRUENWALD RONGEUR 3X10/4MM 6"! 50mm 30° UPWARD
47	WILLIAMS MICRO RONGEUR 2X8MM", 7" STRAIGHT WITH SPIKE FOR BETTR CE MADE IN GERMANY
48	CASPAR RONGEUR 3X12MM7-1/4" STRAIGHT WITH LONGHOLE HALF SERRATED

		49	CASPAR RONGEUR 4X14 MM 7-1/4" STRAIGHT WITH LONGHOLE HALF SERRATED
		50	CASPAR RONGEUR 5X14MM 7-1/4" 160MM STRAIGHT WITH LONGHOLE HALF SERRATED
		51	CASPAR RONGEUR 6X16 MM 7-1/4" 160MM STRAIGHT WITH LONGHOLE HALF SERRATED
		52	CASPAR RONGEUR 5X14MM 7-1/4" 140MM 30° UPWARD WITH LONGHOLE HALF SERRATED
		53	CASPAR RONGEUR 3X12MM 7-1/4" 140MM 30° DOWNWARD WITH LONGHOLE HALF SERRATED
		54	Micro Disc Rongeur 1.5mmx6mm, 180mm (7") working length Straight.
		55	Micro Disc Rongeur 1.5mmx6mm, 180mm (7") working length upward. MADE IN GERMANY
		56	Micro Disc Rongeur 1.5mmx6mm, 180mm (7") working length downward. MADE IN GERMANY
		57	KERRISON-JACOBY Laminectomy Rongeur 90Deg 180mm. 1mm. Upward
		58	KERRISON-JACOBY Pituitary punch, 90Deg 180 mm, 1mm. Downward
		59	KERRISON-JACOBY Pituitary punch, 90Deg 180 mm, 2mm. Upward
		60	KERRISON-JACOBY Pituitary punch, 90Deg 180 mm, 4mm. Upward Thin foot
		61	KERRISON-JACOBY Pituitary punch, 90Deg 5mm, Upward
		62	FERRIS-SMITH KERRISON 2mm pituitary punch, 180mm, 40Deg, Upward cutting.
		63	FERRIS-SMITH KERRISON 3mm pituitary punch, 180mm, 40Deg, Upward cutting.
		64	FERRIS-SMITH KERRISON 4mm pituitary punch, 180mm, 40Deg, Upward cutting.
		65	FERRIS-SMITH KERRISON 5mm pituitary punch, 180mm, 40Deg, Upward cutting.
		66	FERRIS-SMITH KERRISON 2mm pituitary punch, 200mm, 8"40Deg, Upward cutting. Ultra
		67	FERRIS-SMITH KERRISON 2mm pituitary punch, 200mm, 8"40Deg, Upward cutting. Thin foot
		68	FERRIS-SMITH KERRISON 4mm pituitary punch, 200mm, 8"40Deg, Upward cutting. UltraLight
		69	FERRIS-SMITH KERRISON 5mm pituitary punch, 200mm, 8"40Deg, Upward cutting. Ultra Light
		70	William Spinal frame 1
4 3	Microsurgery sets	For cranial and spinal surgery Malleable brain spatulas made of stain less steel or copper length 9" width from 6mm -24mm all sizes in pairs of two. Greenberg tapered blades, Aachen pattern, Heifetz, Olivecrona	

		<p>Microscissors(spring type)- straight, curved –upward and downward, bayonet shaped, yassergill type size various from 6”-10” and suitable for microscopic trans sphenoidal, trans oral surgeries.</p> <p>Micro needle holders- straight, bayonet shaped</p> <p>Micro-forceps, bayonet shaped, yasergill, plain and toothed1x2. Tip from 0.6mm-2mm</p> <p>Tumor grasping forceps, yassergill1mm-5mm, 9”</p> <p>Arachnoid knife jacobsons</p> <p>Penfield dissectors no 1-5</p> <p>Keyhole suction tips in stainless steel non glare finish, 1mm-5mm, tapered, plain and bulbous tips, extralight weighted, ergonomically designed, detachable and adjustable tips for various angles during surgery.</p> <p>Malleable suction tips to contour repeatedly according to the surgery.</p>																												
4 4	Bipolar forceps isokool	<p>Bayonet shaped, different lengths 6inch-10 inch, tip 0.8mm-2mm,</p> <p>Tips of nonsticking alloys with long durability for using multiple no. of times in different patients.</p> <p>isocool technology, irrigation system with foot control.</p>																												
	Suction machine	under process of R/c hence deleted																												
	OT lights	Under process of R/c hence deleted																												
4 5	Lyell’s flexible arm and table attachments	<p>Flexible arms in satin finish.</p> <p>Fixation base for skull mounting, holding one or two flexible arms.</p> <p>coupling head to take 1-5 flexible arms.</p> <p>Coupling head turnable, fixed in any position, one flexible arm or many coupling head can be attached.</p> <p>Coupling head equal to N001B but laterally open, can be fixed to any position on holding rod</p> <p>Ball & socket joint to fix holding rod N-001D to pole of operating table max. 9x32mm</p> <p>Holding rod in one or two pieces for fixation in ball & socket joint and take coupling head.</p>																												
4 6	Gardener’s skull traction	Compatible with CT/MRI for intraoperative neuroimaging																												
4 7	Trans-sphenoidal and trans oral surgery set	<p>1. TRANSORAL</p> <table border="1"> <thead> <tr> <th>Qty.</th> <th>Product Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Weder Tongue Depressor</td> </tr> <tr> <td>1</td> <td>Right Clip Forceps</td> </tr> <tr> <td>1</td> <td>Left Clip Forceps</td> </tr> <tr> <td>1</td> <td>Regular Metzenbaum 7” Scissor</td> </tr> <tr> <td>1</td> <td>8” {Long Suture} Sims Scissor</td> </tr> <tr> <td>1</td> <td>9” Vascular Needle Driver</td> </tr> <tr> <td>3</td> <td>6¼” {Kelly} Rochester – Pean</td> </tr> <tr> <td>2</td> <td>7¼” {Criles} Schmidt Clamps</td> </tr> <tr> <td>2</td> <td>Curved Allis</td> </tr> <tr> <td>4</td> <td>Towel Clips- Non Penetrating 3½”</td> </tr> <tr> <td>3</td> <td>Baby Yankauer Suction</td> </tr> <tr> <td>1</td> <td>Tongue Blade Curved 22cm (for all applications)</td> </tr> <tr> <td>1</td> <td>Tongue Blae Curved to Right, 22cm</td> </tr> </tbody> </table>	Qty.	Product Description	1	Weder Tongue Depressor	1	Right Clip Forceps	1	Left Clip Forceps	1	Regular Metzenbaum 7” Scissor	1	8” {Long Suture} Sims Scissor	1	9” Vascular Needle Driver	3	6¼” {Kelly} Rochester – Pean	2	7¼” {Criles} Schmidt Clamps	2	Curved Allis	4	Towel Clips- Non Penetrating 3½”	3	Baby Yankauer Suction	1	Tongue Blade Curved 22cm (for all applications)	1	Tongue Blae Curved to Right, 22cm
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1	Tongue Blae Curved to Left, 22cm
2	Cheek Retractor, flexible,22.5cm
1	Wollenberg Laryngeal Blad, concave,17cm
1	Wollenberg Diverticuloscope Blade, concave,22cm
1	Simon Mandible Blade, 14cm
1	Crow-Davis Moute Gag Right
1	Crow-Davis Moute Gag Left
1	Jennings Mouth Gag
1	Side Biting Mouth Gag/Sluder jansen Mouth Gag

3. Transsphenoidal Instrument Set

S.N.SSS S.N.	Description
1.1 1 1.	Killian Speculum, Self Retaining Screw,76×7mm
2 2.	Papavero-Caspar Speculum, Slim-profile, 90×110mm
3.	Frazier Suction Dissector, 7Fr,165mm
4.	Freer El Elevator, 185mm
5.	G # # #4 Penfield Dissector, 203mm
6.	Atraumatic Suction Tube, 7Down,90 Degree,
7.	Atraumatic Suction Tube, 7Up, 90 Degree, 21mm
8.	Atraumatic Suction Tube, 10Up, 90 Degree, 21mm
9.	Full Size Lid, 544×257mm
10.	Cottle Mallet,184mm
11.	Papavero Bayoneted Chisle, Straight,4mm,229mm
12.	Landolt Bi-PolarForceps,90 Degree
13.	Landolt Bi-PolarForceps,120 Degree
14.	Hardy Enucleators, LeftBend,Blunt Left ,245mm
15.	Hardy Enucleators, Right Bend,Blunt Left ,245mm
16.	Hardy Enucleators, Left Bend,Sharp Left ,245mm
17.	Hardy Enucleators, Right Bend,Sharp Left ,245mm
18.	Landolt Hook, Blunt 260mm
19	Landolt Reulen Hook, Blunt 1.7mm,261mm
20.	Landolt Dissector ,2mm,260mm
21.	Landolt Raspatory, 3.2mm,260mm
22.	Baby Senn-Miller Retractor,Blunt
23.	Nicola Malleable Curette,260mm
//2//	
241 24	Kerrison, 40Up, 2mm,Thin Footplate, 180mm
225	Kerrison, 90Up, 2mm,Thin Footplate, 180mm

26	Kerrison, 90Down, 2mm,Thin Footplate, 180mm
27	Kerrison, 40Down, 2mm,Thin Footplate, 180mm
28	Cushing Rongeur, Straight,2×10mm,180mm
29	Cushing Rongeur Up Bite, 2×10mm,178mm
30	Cushing Rongeur, Down Bite, 2×10mm,178mm
31	Caspar Rongeur, Straight, 2mm, 155mm
32	Love-Gruenwald Rongeur, Straight 3×10mm, 180mm
33	Love-Gruenwald Rongeur, Up Bite, 3×10mm, 180mm
34	Nicola Micro Scissor,Scoop Shape, 165mm
35	Rotatable , Ring Curette,Blunt, 45Degree, 3mm , 265mm
36	Rotatable , Ring Curette,Blunt, 45Degree, 5mm , 265mm
37	Rotatable , Ring Curette,Blunt, 90Degree, 3mm, 265mm
38	Rotatable , Ring Curette,Blunt, 90Degree, 5mm, 265mm
39	Rotatable ,Ring Curette,Sharp, 45Degree, 3mm, 265mm
40	Rotatable, Ring Curette,Sharp, 45Degree, 5mm, 265mm
41	Rotatable, Ring Curette,Sharp, 45Degree, 3mm, 265mm
42	Rotatable, Ring Curette,Sharp, 90Degree, 3mm, 265mm
43	Rotatable, Ring Curette,Sharp, 90Degree, 5mm, 265mm
44	Rotatable ,Knife Handle, 255mm
//2//	
<u>Transoral Neuro Surgery Instrumets</u>	
Sr	Item Description
Sr. No.	
1	Frame for Transoral retractor,Crockard. 15cm/6''×7cm/2.75''
2	Tongue Retractor Blade,Large Crockard. 190mm.Length 15cm
3	Tongue Retractor Blade,Small Crockard. 175mm.Length 15cm
4	Retractor Blade.90Ø.20mmW/40mmD.Le nght12.5cm.
5	Retractor Blade.Curved.12mmW/40mmD.Le nght 12.5cm.
6	Universal Connectors for retractor blades.17mm.Length 32 mm.
7	Suction Tube Holder.Short.Crockard.17mm.Length 40mm.
8	Suction Tube Holder. Long .Crockard.17mm.Length 50mm.

		<p>9 Hard Palate Retractor . Crockard .</p> <p>10 Pharyngeal Retractor . Small .</p> <p>11 Pharyngeal Retractor . Large .</p> <p>12 Odontoid Peg Grasping Forceps .</p> <p>13 Crockard Ligament Forceps .</p> <p>14 Fcps. , Prostatic Capsule “T”. Millin.23cm/9”.</p> <p>15 Fcps., Vulsellum for capsule. 10mm jaw with 8×9th. Angular . Millin . 23cm/9”</p> <p>16 Fcps., Ligature Carrying. Millin . Angular.23cm/9” .</p> <p>17 Fcps. , Nasal Turbinate . Luc . Oval . Large 19.0mm. 19cm/7.5”</p> <p>18 Fcps. , Nasal Turbinate . Luc . Oval . Medium 17.5mm. 19cm/7.5”</p> <p>19 Fcps. , Nasal Turbinate . Luc . Oval . Small 16.0mm. 19cm/7.5”</p> <p>20 Fcps. , Bone Cutting . D/A Tudor-Edwards. Rib Cutting. CCv. 27cm/10.75”</p> <p>21 Nibbler/Rongeur, Stille-Leksell. 5mm-jaw 23cm/9”</p> <p>22 Punch,Disc. 2mm×10mm. Cushing. Str . 18c m/7”</p> <p>23 Punch , Disc. 2mm×10mm. Cushing . Ald. Up 4 5Ø. 18cm/7”.</p> <p>24 Punch, Disc . 2mm×10mm. Cloward . Serr . Ed ges . Str. 18cm/7”.</p>	
	Surgeons chair with arm rests	under process of R/c hence deleted	
4	Operative ultrasonic generator	<ol style="list-style-type: none"> 1. Ultrasonic generator with fixed frequency of 55.5 KHz with transducer and footswitch capable of incising tissue and providing hemostasis with minimal thermal injury. 2. It should have 5mm instruments/probes/shears. 3. It should have capacity of 5mm vessel sealing with lap and open shears. 4. It should have 3 different audible tone settings possible. 5. The probe of the Coagulating shear should be 360° rotatable and capable of working in three modes-Flat, Blunt and Sharp mode. 6. It should have option of hand activation with bilateral MIN and MAX switches 7. It should have a provision for connecting 2 footswitches for two surgeons to work simultaneously. 8. It should have self-diagnostic mode to detect any problem with generator, footswitch, transducer or instruments. 9. It should have an audible indicator for active shear/probe/instrument 10. It should have a warning system for a worn out probe/shear/instrument with error codes. 11. It should have a maximum of 5 power level settings with power level display of both MIN & MAX 12. Frequency of vibration should be same for both open and lap probes/shears/instruments 13. It has a vibration range of 50-110 microns(micro meters,µm) 14. The system can be put in standby mode for better safety. 15. It should not be combined with an Electrosurgical unit 16. It should be functional for both Laparoscopic and Open surgeries. 17. It should have an option of using 5mm hand activated Laparoscopic Shears. Accessories (a) Wrench (b) Test Tip (c) Transducer for shears (d) Transducer for fine dissecting probe <p>Open surgical instruments: (a) Coagulating</p>	

		Shears-Open (b) Coagulating Shears-Open Curved Mode (c) Fine dissection probe for Thyroid and auxiliary dissection.
49	Laser system for endoscopic treatment of prostate, bladder stones. Ureter and kidney holmium laser 100 watt	Laser Wavelength 2100nm Maximum Average Power 100 W Pulse Duration 350,700 microseconds Pulse Energy 0.4 to 3.0 J Repetition Rate 5 to 20 Hz Visible Aiming Beam 532nm (green), 3m W maximum user adjustable Electrical Requirements 115/230 V~ 15 A Single – phase
50	PCNL set with endovision HD camera system.	Wide-angel straight forward telescope 6” with parallel eyepiece, autoclavable, with lock connection for inflow, with instrument channel, fiber optic light transmission incorporated optic sheet, 26 fr, for continues suction & irrigation Hollow obturator and fascial dilator 3 piece puncture cannula, for localization of renal calculi including inner & outer cannulas. Dilation cannula , 03 mm , fo introduction of a second safety guide wire consisting of an inner i &outer cannula. I Telescope dilation set , consisting of : set of 6 dilators, size 9. 1 15,18,21&24 Fr., with 2 rigid & 2 flexible guide rods 7. Dilator 27 Fr Dilator, 30 Fr. Grasping forcipes for large stone fragments & coagula , fenestrated jaws & spring handle, length 38 cm, Grasping forcipes for large stone fragments, 3 expanding jaws &small fixation spikes, with spring handle, length 38 cm Grasping forcipes for large stone fragments, with fenestrated jaws & ring handle, double action jaws, length 38 cm. Grasping forcipes for large stone fragments, serrated, double action jaws with ring handle, length 38 cm. Endovision HD camera with LED light source.
51	Flexible cystonephro fiberoscope	It should consist of the following — Should allows endoscopic monitoring while performing urodynamic operative procedure. Large angel of view & deflectable distal tip for better orientation up to 110 degree. Deflection of dital tip: upward -210 degree and download-140 degree. Instrument channel 7 F. Waterproof, fully immiscible for cleaning & disinfection. Sterilizable via Et0 & FO gas, Steris & starred. Direction of view should be 0 degree. Working length 37 cm with distal tip diameter of 15.5 Fr. Following accessories are to be included: case for Moro scope. Grasping forcep for small fragments, single action jaws ,.Biopsy forceps 5 Fr with single action jaws length 73 cm, pressure compensation cap for ventilation during gar sterilization, leakage tester withy bulb and manometer. Cleaning brush 6 Fr flexible long for instrument channel., —adapter, with seal. Stone basket 5Fr length 60 cm consisting of 3 — ring handle, basket, coll. Coagulating Electrode 4Fr length — 73 cm. Endovision HD camera with LED light source.
52	Uroflowmetry system	UROFLOWMETRY SYSTEM (THIRD GENERATION) should be fully automatic, starting to scroll or print when flow is detected, & stopping when the patient has finished voiding.
53	Ureterscopic set 1 with lithotripter(pneumatic)	Ureterscope,6 F to 13.5 F range short and long uretrosopes , autoclavable, with angled eyepiece, fiber optic light Transmission incorporated, 2 lateral irrigation ports and 1 working channel 5 Fr. For instruments 4Fr. With Instrument port, Sealing and Cleaning adapter Ureterscope 8Fr. 60 one step conical, 8-13.5Fr Length 34cm autoclavable with angled

		<p>eyepiece fiber optic light transmission incorporated 2 lateral irrigation ports and 1 working channel 5Fr. for instrument 4Fr. with instrument port , sealing and Cleaning adapter</p> <p>Pneumatic Lithotripter (Lithoclast) for stone Disintegration</p>
5 4	General laparotomy set	<p>Sponge holder - 24 cm (3)</p> <p>Needle holder - long 20cm(1)</p> <p>Needle holder - medium 18 cm (2)</p> <p>Needle holder - small (1)</p> <p>Curved artery forceps - 16 cm (20)</p> <p>Mosquito artery forceps -12 cm (20)</p> <p>Allis tissue holding forceps-15 cm(6)</p> <p>Allis tissue holding forceps-20cm(6)</p> <p>Babcocks forceps-16cm (4)</p> <p>Babcocks forceps-20cm (4)</p> <p>Kellys forceps -20 cm(3)</p> <p>Right angled forcep clamp-23 cm(3)</p> <p>Right angled forcep clamp-18 cm (3)</p> <p>Straight artery forceps - long 16 cm (2)</p> <p>Straight artery forceps - medium 12 cm (4)</p> <p>Kochers artery forceps (2)</p> <p>Towel clip-13 cm(4)</p> <p>BP Handle - NO. 4(2)</p> <p>BP handle-No.3 (1)</p> <p>Non toothed dissecting forceps - 15 cm(2)</p> <p>Non toothed dissecting forceps - 24 cm(2)</p> <p>Toothed dissecting forceps -15 cm(2)</p> <p>Metzenbaum scissors - 14cm(2)</p> <p>Metzenbaum scissors - 18cm(2)</p> <p>Metzenbaum scissors - 20cm(2)</p> <p>Metzenbaum scissors - 26cm(2)</p> <p>Mayos scissors -Curved 23 cm (2)</p> <p>Mayos scissors -Curved 17 cm (2)</p> <p>Suction Cannula -small (1)</p> <p>Intestinal non crushing clamp -Straight 26 cm (2)</p> <p>Intestinal non crushing clamp -Curved 26 cm (2)</p> <p>Stomach crushing clamp (Payrs) 1</p> <p>Intestinal crushing clamp (Payrs) 1</p> <p>Dejardine stone holding forceps(2)</p> <p>Pool suction nozzle(1)</p> <p>Morris retractor - Big(2)</p> <p>Morris retractor - Small (2)</p> <p>Harrington retractor - Broad(3)</p> <p>Abdominal self retaining retractor with 3 blades(1)</p> <p>Deavers retractor -Broad (2)</p> <p>Deavers retractor -Narrow(2)</p> <p>Stainless steel bowl -250cc(1)</p> <p>Stainless steel bowl -500cc(1)</p> <p>Stainless steel tray(1)</p> <p>Czernys retractor (2)</p> <p>Mayos safety pin (4)</p> <p>Mixters forceps - 20cm (1)</p> <p>Right angled forceps - 20 cm (1)</p> <p>Right angled forceps - 15 cm (1)</p>

		Langenback retractor - (6) Upper end retractor (2)
5 5	Urethroplasty set	<p>A. TURNER WAR WICK RING RETRACTOR 1 NO. 9INCH</p> <p>B. TEFLON HAMMERS 750 GM. 1 NO. 125 GM.</p> <p>C. BONE CUTTER / GAUZES 1 NO. 7 INCH</p> <p>D BONE NI BLER PARROT JAWS 1 NO 7 INCH</p> <p>E. ANGULATED CHISSLE 3 NO. 10/15/20 M.M.</p> <p>F. MUSTER RETRACTOR 2 NO. 4INCH/6 INCH</p> <p>G. PORT SCISSOR 1 NO. 45 PAROT JAWS</p> <p>H. TURNER WAR WICK NEEDLE 1 NO 6 INCH</p> <p>I. OPEN N NEEDLE HOLDER 1 NO. 7 INCH ANGULA</p> <p>J. EXPANDER AVAILABLE IN 3 DIFFERENT 3 NO 4 /6/8 INCH SIZE</p> <p>(NESS SPECULAM)</p> <p>K. SET OF 6 J NEEDLE 1 SET SILICON</p> <p>SET OF DEVER RECTRACTOR 2 NO. SILICON</p> <p>M. BBUCAL MUCOSA PAD 1 NO. SILICON</p> <p>N. SESET OF HAGROO DAILATOR 1 NO 4/7-6/9-8/11 .</p> <p>FIBER CARRIER HAGROO DAILATOR 1 NO 7/10</p>
5 6	Open surgery hand clip applicator small, medium, & large	<p>Clip Applicator , for small clips, reusable.</p> <p>Clip Applicator -, Medium , for medium Clips, Reusable</p> <p>Clip applicator For large clips, reusable</p>
5 7	Thompson's self retaining retractor upper gi	Thompson Sims self Retaining Abdominal Retractor with table attachment
5 8	Flexible endoscope gastroscope	<p><u>Gastrovideoscope:</u></p> <ul style="list-style-type: none"> - Built in HDTV compatible CCD with close focus observation capacity. - Suitable for Narrow Band Imaging.& Dual Focus - Fully immersible in disinfectant solution (no need to attach water resistant cap) & one touch connectivity. - In built scope identification memory chip for monitor display of scope's model no. serial no., white balancing memory, no. of connections/cummulative uses etc. - Auxillary water jet for mucosal cleaning <p>Field of view : Normal/Near focus 140 degree or more</p> <p>Direction of view : 0 degree, forward viewing</p>

		<p>Depth of field : Near 2-6 mm, Normal 5-100 mm or better</p> <p>Distal end outer diameter : 9.9 mm or less</p> <p>Insertion tube outer diameter : 9.9 mm or less</p> <p>Tip Bending range : Up 210 deg, Dn 90 deg, Lt & Rt 100 deg.</p> <p>Working length : 1030 mm or more</p> <p>Channel inner diameter : 2.8 mm or more</p> <p>Minimum Visible distance of instrument used through channel : 3 mm or closer from distal end.</p>
59	Lower gi flexible endoscope with videorecording and monitoring system (with inbuilt recording system.)	<p><u>Colonovideoscope:</u></p> <p>Built in HDTV compatible CCD with (Dual) Near & Normal focus observation capacity.</p> <ul style="list-style-type: none"> - Should have Narrow Band Imaging for detailed mucosal study - Inbuilt features like Variable stiffness, High force transmission & Passive bending for ease of insertion. - Fully immersible in disinfectant solution (no need to attach water resistant cap) & one touch connectivity. - In built scope identification memory chip for monitor display of scope's model no. serial no., white balancing memory, no. of connections/cumulative uses etc. - Auxiliary water jet for mucosal cleaning <p>Field of view : In Normal focus 170 deg, In Near Focus-160 deg or more</p> <p>Direction of view : 0 degree, forward viewing</p> <p>Depth of field : Normal- 5-100 mm, Near 2-6 mm or better</p> <p>Distal end outer diameter : 13.2 mm or less</p> <p>Insertion tube outer diameter : 12.8 mm or less</p> <p>Tip Bending range : Up & Dn 180 deg, Lt & Rt 160 deg.</p> <p>Working length : L : 1680 mm I: 1330 mm or more</p> <p>Channel inner diameter : 3.7 mm or more</p> <p>Minimum Visible distance of instrument used thru channel : 4 mm (Normal) or closer from distal end.</p>
60	Bariatric surgery ot table	Table for patients weighing 300kg wt with leg splits for operating surgeon to stand between the legs and attachments.
61	Multi purpose robotic surgery system	MULTIPURPOSE COPUTER ASISTED AND ROBOTIC ASISTED SURGERY SYSTEM WITH TELEMANIPULATOR ,ROBOTIC ARMS AND END EFFECTORS AND MANIPULATORS WITH POSSIBILITY OF REMOTE SURGERY WITH SURGEON CONSOLE,PATIENT SIDE ROBOTIC CART WITH AT LEAST 4 ARMS AND HIGH DEFINATION 3 D VISION SYSTEM.
62	Flexible esophageal bougies	<p>Maloney (tapered) 21 bougies, 20-60 FR</p> <p>21-piece full set</p> <hr/> <p>Maloney (tapered) 10 bougies, 36-54 FR</p> <p>10-piece mini-set</p> <hr/> <p>Hurst (blunt) 21 bougies, 20-60 FR</p>

		<p>21-piece full set</p> <hr/> <p>Hurst (blunt)</p> <p>10-piece mini- set 10 bougies, 36-54 FR</p> <hr/> <p>Bougie Storage Case Heavy-duty storage for up to 46 bougies. 32"L x 7"W x 4"H</p>
6 3	Self retaining ring retractor for pelvic surgery	The retractor is composed of a vaginal ring, five retractor blades, four ratchets, and two accompanying bars to secure it in position
	Cusa cavitation ultrasonic aspirator	Same as item no.32 hence deleted
6 4	Argon plasma coagulator	<p>Technical Specifications:</p> <p>It should be microprocessor based advanced Electro Surgical system should provide consistent performance by using latest & reproducible technology.</p> <p>Should have facility to use gas argon coagulator.</p> <p><u>It should have Monopolar cutting modes:-</u></p> <p>a) Low cut– for delicate tissue and laparoscopy & endoscopy</p> <p>b) Pure cut – for clean precise cut</p> <p>c) Blend cut – for cutting with heamostasis.</p> <p>d) Endo Cut-(Gastrocut)- for G.I. surgery</p> <p>4. It should have Monopolar coagulation modes:-</p> <p>a) <u>Desiccate</u> – for low voltage contact coagulation suitable for laparoscopic and delicate tissue work</p> <p>b) <u>Fulgurate</u> – for efficient non contact coagulation</p> <p>c) <u>Spray</u> – for coagulation of large tissue area with minimum depth of necrosis.</p> <p>5. it should have Bipolar cutting modes :-</p> <p>a) <u>Saline</u> – For TURP,TUVP,TCRE.</p> <p>b) <u>Macro mode</u>-For new generation of macro bipolar cutting instruments.</p> <p>c) <u>Plasma mode</u>-Advanced computerized wet field bipolar works under blood, saline etc.</p> <p>Bipolar Coagulation modes:</p> <p>a) <u>Precise mode</u> – For Ophthalmic use.</p> <p>b) <u>Micro mode</u>- To have fine control of dessication in delicate tissue.</p> <p>c) <u>Plasma mode</u></p> <p>6. combined bipolar cutting & coagulation.</p> <p>7. It should have Sinusoidal waveform</p> <p>8. it should have Activation by double pedal footswitch and hand switch.</p> <p>9. it should have independent activation of hand switching, footswitch & automatic start/stop system.\</p> <p>10 it should have true digital power readout with dosage error control with Self diagnostic mode & error display.</p> <p>11. It should have stoppage of output in case of malfunction with acoustic and visual signal with display.</p> <p>12. it should have Patient to Patient plate cotact quality monitoring technology utilizes 2 sided neutral electrode plate for patient control system which continuously monitors the neutral electrode for proper application in real time and it alarms and deactivates the output if the contact of the patient with the plate is compromised or not proper.</p> <p>13. should have System for monitoring and control of leakage current.</p> <p>14. should be supplied with Trolley, mains cable, foot switches for mono and</p>

		<p>bipolar.</p> <p>15. it should be supplied with the following accessories:</p> <p>Electrode handle with and without finger switch cable for electrode handle</p> <p>Set of electrodes(long & short)</p> <p>Electrode container with holder</p> <p>Tip cleaner</p> <p>Bipolar forceps</p> <p>Cable for bipolar forceps</p> <p>Cable for connecting to mono polar and bipolar laparoscopic instruments.</p> <p>It should be CE or FDA Approved</p>
	LED CEILING LIGHT WITH COVER (WHITE LIGHT) with camera for recording	Under process of R/c hence deleted
6 5	Bipolar turp set	<p>Resection in saline solution</p> <p>It should have one 30 degree & and one 12 degree telescope,4mm,autoclavable.</p> <p>Cutting loop,bipolar,24Fr,to be used with both 30 degree as well as 12 degree telescopes .</p> <p>Cutting loop,bipolar,24Fr,small,to be used with both 30 degree as well as 12 degree telescopes.</p> <p>Resctoscope sheath,26dfr,oblique beak,rotatable inner tube with ceramic insulation</p> <p>Obturator for use with sheath.</p> <p>Working element,bipolar,cutting by means of spring,movable thumb support,in rest position the electrode is inside the sheath.</p> <p>Compatible HF cord.</p> <p>SPECIFICATION FOR HIGH FREQUENCY UNITS FOR BIPOLAR RESECTION SHOULD HAVE</p> <p>Degree of coagulation can be reselected in several steps</p> <p>It should have soft,standard and forced coagulation.</p> <p>Automatic activation of coagulation current as soon as coagulation electrodes touches tissue with both prongs.</p> <p>Bipolar application with nacl irrigation solution.</p> <p>Spray coagulation.</p> <p>Arc controlled cutting,unipolar.</p> <p>Max bipolar saline coagulation at 200 watt,bipolar saline cut 100watt,bipolar saline cut at 300 watt.</p> <p>Unipolar max at 300 watt where standard coagulation at 200 watt,forced coagulation at 120 watt,spray coagulation at 120 watt.</p> <p>HF/LF leakage current monitor.</p> <p>Switch over function enables switching between two modes within a user programme via a foot switch from sterile area.</p>
6 6	<u>Holmium</u> <u>lasers Watts</u>	<ul style="list-style-type: none"> •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 lesions of the external genitalia.

- It should have power output of 20 watts.
- It should have repetition rate of 50 Hz.
- 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, 30Amps Power Supply

• It should be supplied with following accessories:

- 550 Micron Reusable, Flexible Fiber 1
- 365 Micron Reusable, Flexible Fiber 1
- 200 micron Reusable, Flexible Fiber 1
- 550 Micron Side Fire Fiber for Ablation 1
- 550 Micron Stripping and cleaving (set) 1
- 365 Micron Stripping and cleaving (set) 1
- 200 Micron Stripping and cleaving (set) 1
- Fibre Inspection Scope 1
- Ceramic Scissors 1
- Accessories Bag 1
- Laser Safety Goggles 3
- Laser Safety Glasses

Other Pre-requisites for 20w laser

a. There should be a number of installations in 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

		<input type="checkbox"/> Bladder neck incision (BNI) <input type="checkbox"/> Transurethral incision of prostate (TUIP) <input type="checkbox"/> Lithotripsy of renal, ureteral <input type="checkbox"/> Ureteral and Urethral strictures <input type="checkbox"/> Bladder and ureteral tumors It should be supplied with greenlight LBO Laser 120 Wt.for photoselective vaporization of prostate along with sodefire fiber 50 no nd continuous flow laser cytoscope nd UPS
6 7	Impedance based bipolar RFA for endoluminal ablation. With accessories and disposables.	General •Should be based on the principle of Radio frequency induced Thermotherapy for endovenous treatment of venous nsufficiency. •Current should be induced through bipolar applicators. Should not need any neutral electrodes. •Should be intersitial form of therapy which can be performed under local anaesthesia. •Tissue should be heated between 60 degree C to 100 degree C using Catheter like monitored and indicated by an acoustic signal. •The power output of the RF generator should automatically correspond to the tissue resistance and ensure that the radio frequency is emitted as the proper rate so that thermal injuries or burns are avoided. •Should have footswitch control. Should be a compact unit and should be supplied with 25 units of single use applicators. Power Unit Output power : 1-25 Watts Frequency - 470kHz Channels : 1 Bipolar Applicator - 2 boxes of 5 pcs •Should be flexible and ultrathin (1.8mm diameter) •The tip should be hemispherical to avoid intravenous injuries. •The length should be 1200 mm. •The electrode length should be 15 mm. Should have 3 m long cable in each applicator
6 8	Sigmoido Scope	1- Viewing direction-forward 2- Observation Range-4-100 mm 3- Field of view -140 4- Distal end diameter-12.8mm 5- Flexible portion-12.8mm 6- Bending capability Up-180 Down-180 Left-160 Right-160 7- Working length-790mm Total length-1000mm
	Burr hole set	Under process of R/c hence deleted
6 9	Power saw	Microprocessor controlled Power Driver System should provide complete functions of bone harvesting drilling & fixation of small bone & helps in

		<p>osteosynthesis.</p> <p>Should have computerised control with touch screen facility having options of digital display of speed & to preselect acceleration & braking of handpiece speed.</p> <p>Should be provided with cable & footswitch & should be provided with complete set of following accessories Universal Drill Multiple handpieces 1:5 speed upto 30,000 rpm.</p> <p>Micro Saggital Saw with blades with speed of 20000 cycles/min.</p> <p>Micro Oscillating saw with blades with speed upto 15000 rpm.</p> <p>Micro reciprocating saw with blades with speed of 20000.</p>
70	Micro instruments set	<p>Microsurgical instruments specially designed in consideration with the depth of the operating field, for free tissue transfer/nerve repair. The instruments should be balance in design to put the centre of gravity between webspace & the index finger.</p> <p>Instruments should be curved to facilitate needle driving.</p> <p>The micro scissors should be specially designed for minimum closing pressure distribution along the blades.</p> <p>Handles should be round with the spring instrument configuration & with curved blades. They should be rounded at the tips with the radius of 0.3mm & adventitia scissors should have very sharp tips that are pointed for fine trimming & suture cutting.</p> <p>All instruments should have special ergonomic design & have well made tips for high durability.</p> <p>The vessel dilator should have special ball point form of the tips so that the dilator pressure is evenly distributed over the entire area of the vessel.</p> <p>Needle holder should be specially designed for secure grip due to parallel closure over the entire jaw length and closing pressure precisely calibrated for minimizing fatigue. They should have stronger tips to withstand higher pressure tip dia 0.3mm or 0.4mm.</p> <p>Microclamps should be light, compact robust & have unique gripping surface. They should have smooth sliding bar action on all approximator clamps for vessel diameter of 0.4mm to 0.5mm, pressure of 5gm/mm² to 15gm/mm²</p> <p>Forceps 15cm round handle 8mm dia st</p> <p>Forceps 15cm round handle 8mm dia cvd tip.</p> <p>8mm dia angulated 45 dig.</p> <p>Forceps 11cm long, flat handle, 9mm wide st..</p> <p>Forceps 12cm long, flat handle, 9mm wide st</p> <p>Forceps 13.5cm long, flat handle, 9mm wide st.</p> <p>Forceps 18cm long, flat handle, 9mm wide st., balance Forceps 18cm long round handle, 8mm dia st..</p> <p>Clamp applying forceps for vessel 0.4 to 2.25.</p> <p>Clamp applying forceps for vessel 1.5 to 5.0mm.</p> <p>Dissecting Scissors 18cm long round blade handle 10mm dia, 10mm long cvd.</p> <p>Dissecting Scissor 15cm long round blade handle 8mm dia, blade 9mm long cvd.</p> <p>Dissecting Scissors 12cm long round handle, 7mm dia, blade 8mm.</p> <p>Adventita Scissors 15cm long round handle 8mm dia, blade 9mm long St.</p> <p>Adventitia scissors 15cm long round handle 8mm dia, blade 9mm long st..</p> <p>Adventitia scissors 15cm long round handle 8mm dia, blade 7mm long vanas pattern</p> <p>Needle Holder 14cm long, Flat handle 8mm wide.</p>

		<p>Needle Holder 12cm long, round handle 7mm dia. Needle Holder 13cm long, round handle 8mm dia. Arteriotomy Clamp (set of 3) Instrument breaker with silicone bottom Instrument rack for 8 instrument Nerve approximator Microvascular Single clamp 8mm for Veins. Microvascular Single clamp 11mm for Veins. Microvascular Single clamp 17mm for Veins. for vesse size 1.5 to 3.5mm Approximator. Double approximator without frame 8mm, for Veins. Double approximator without frame 11mm, for Veins. Double approximator without frame 17mm, for Veins. For vessel size 1.5 to 3.5mm approximator. 10/0 TAPER POINT, 100 MICRON NYLON BLACK 4MM CIRCLE 3/8 (BOX OF 12). 9/0 TAPER POINT, 100 MICRON NYLON BLACK LENGTH 15CM, CHORD 4MM, CIRCLE 3/8 (BOX OF 12). 9/0 TAPER POINT, 140 MICRON NYLON BLACK LENGTH 15CM, CHORD 4MM, CIRCLE 3/8, ARCH 5MM (BOX OF 12). 8/0 TAPER POINT, NYLON BLACK LENGTH 15CM, MICRON 140, CHORD 3MM, CIRCLE 3/8 ARCH 3.8MM (BOX OF 12) HYDRAULIC CHAIR with Arm rest, foot rest, foot control for upward and downward control and remote for control.</p>
	Laser	Under process of R/c hence deleted
	Laparoscopic set	Under process of R/c hence deleted
7 1	Lithotripsy	<ul style="list-style-type: none"> • Extracorporeal shock wave lithotripter equipment –ESWL • Electromagnetic shock wave • Non invasive technique • Consist of – Shock wave generator <ul style="list-style-type: none"> - Focusing system - Coupling mechanism - Localization system <p>USFDA approved</p>
7 2	Mobile surgical work station	<p>Ultrasonic Surgical Workstation should be in modular design and multipurpose instrument and time</p> <p>Should be used in General Surgery, Urologic surgery, Gastrectomy, Appendectomy, Tra Neurosurgery, Cardiac Surgery etc.</p> <p>Should have function modules with Ultrasonic Surgical Aspirator, Ultrasonic Hemostatic Ultrasonic Debridement System.</p> <p>Should have Multi-function integrated platform combining Ultrasonic Hemostatic cutter Debridement System and Ultrasonic Surgical Aspirator</p> <p>All items should be from single manufacturer for system compatibility.</p> <p>Manufacturer / Supplier should have ISO certification for quality standards</p> <p>Ultrasonic Hemostatic cutter</p> <p>Should have removable multiple use multi- purpose scissors used in minimally invasive</p> <p>Should have blade working at 55.5 KhZ Ultrasonic frequency for mechanical oscillation 50um-100um.</p> <p>Controllable hemostatic function slender and small vessels occluded and intraoperative h</p>

		reduced.	
		Ultrasonic Debridement System	
		Should be advanced technology and mainly used for open fracture difficult healed and C	
		Should have unique controller for liquid concentration and flow of flushing fluid, when different parts debridement . Should have large area	
		Should have enhanced columniation , cavitation suitable for the deeply infected and deep	
		Ultrasonic Surgical Aspirator	
		Should be used in General Surgery and particular durable slender lengthened tips made o	
		Should have excellent tissue selectivity protects vessels and nerves with a clear anatomical injury avoided, operative time saved and concuttent diseases decreased	
		Should have vessels (D>1mm) saved (Vibration amplitude <50o/o), thrombin activity in cavitation and hemostatic effect enhanced.	
		Should have multifunction of fragmentation, irrigating and aspirating provides a clear su and through removal of tumor, risk of leftover cancer cells growth avoided and postoper recrudescence reduced.	
		Should have low vibration amplitude (Max 300um) with no sideward vibration, rapid pr removal of pathological tissues with no incision burn and few peripheral injury and rapid	
7 3	Plasma sterilizer	<p>Should have automatic input control of sterilant along the input amount of object of sterilization, Complete dehumidification and minimization of processing time by controlling processingtime along moisture content, Complete removal of exhaustedhydrogen peroxide and hydrogen peroxide. Should have Embedded system, Cryo-prober Dopplers, Electrocautery instruments, Defibrillator paddles, Endoscopic instruments, Rigid endoscopes, laryngoscope & blade, arthroscopes, laparoscopes & Trocar cannula and Trocar sheaths, resectoscope and sheaths, etc</p> <p>Should have Flexible endoscopes bronchoscopes, hysteroscopes, choledoc hoscpcrs, ureterosocprs, cystoscopes, etc.</p> <p>Should have Esophageal dilators, Fiberoptic light, cables, Laser handpieces, fibers, accessories, Shaver handpieces / Pigmentation handpieces, Metal instrumensts, Ophthalmic lenses (Diagnostic, Magnifying), Patient lead cable, Radiation therapy equipment and Surgical power equipment and batteries (Power drills), Ultrasound probes and Video cameras and couplers</p> <p>Should be CE Marked, ISO: 9001, FDA approved.</p> <p><u>Technical specifications:-</u></p> <p>Capacity of chamber not more than 33 liters</p> <p>Temperature of 50 deg C – 60 deg C sterilizing chamber</p> <p>Preparation stage 3~15 minutes</p> <p>Sterilization stage 20~24 minutes</p> <p>Exhaustion & drying 4~15 minutes</p> <p>Sterilant hydrogen peroxide</p> <p>Vacuum range 760torr~0.5torr</p> <p>High voltage transformer</p> <p>Input voltage 220V/AC 60Hz</p> <p>Output voltage 15Kvp 20Khz</p> <p>Service voltage 220VAC, 60Hz single phase</p> <p>Power consumption: 2kw</p> <p>Dimensions: 500mm (W) x 700mm (H) x 780mm (L)</p> <p>Weight not more than 140kg</p> <p>The above specification is generalized</p>	
7 4	Flexible endoscope &	<p>Specification for Video Endoscope system</p> <p>Ø Videoprocessor with light s ce</p>	

	side viewing gastro_duodenoscope	<p>Ø Gastro intestinal videoscope VIDEO SIDE-VIEWING DUODENOSCOPE Ø Videocolonoscope Ø Endoscope washer Ø Accessories Ø Hardware for recording & archiving # Should be latest CCD Chip technology with minimum 400K pixels CCD resolution # Scopes should have Autoclvable Suction & Air water buttons to avoid infections & better saftey management # VIEWING DIRECTION Lateral, 5- 8 DEG REARWARD FOR COMPLETE LATERAL VIEW & FULL SCREEN IMAGE # OBSERVATION RANGE 4 - 60mm # FIELD OF VIEW MINIMUM 100 -110 DEG # DISTAL END DIAMETER FROM 12.5 TO 13.5 mm # FLEXIBLE PORTION DIAMETER FROM 11.5 TO 12.5 mm # BENDING CAPABILITY UP 130-140 DEG DOWN 90 -100DEG LEFT 90 -100DEG RIGHT 110 -120DEG # FORCEPS CHANNEL DIAMETER minimum 4.2 mm # WORKING LENGTH 1,200 to 1250mm # TOTAL LENGTH 1,500 to 1550 mm # Should be Super Image scope showing full screen circular imgae. #Should be light in weight & controls should be eaisly operatable</p>
7 5	Urethral dilator set	<p>a) Metal b) Flexible c) Flexible with filiform and followers</p>
	Pediatric Ventilator	Under process of R/c hence deleted
7 6	Neonatal Ventilator	<p>Advanced microprocessor based continuous flow , pressure limited, time cycled ventilator for very low body weight infants (premature, newborns) upto maximum 20 kg, upgradeable for additional functions Should be an upgradeable design with software/hardware upgradeability for new/ future functions with inbuilt graphic screen Should have both invasive and non invasive ventilation modes available in the same machine for use on neonatal and premature patients with suitable accessories. The ventilator should be supplied with heated servo controlled humidifier with suitable hoses and chambers for neonatal patients. Should have standard Air Compressor . Should have integrated filters of <1 micron to provide better air quality. Flow sensor :</p>

The flow sensor should be of higher accuracy.
 It should calibrate quickly within 5 seconds and data should be measured at proximal end, near the Y piece.
 It should be easily replaceable without disassembling the machine or disassembling the expiratory valve
 At least 10 No.s flow sensor should be supplied for the lifetime of the equipment.

The ventilator should have ventilation modes as below:
 Pressure Controlled – Control, Assist, SIMV
 CPAP

Should have settings for :

Peak Inspiratory Pressure	10 - 80 cmH2O
Flow independent PEEP	0 – 25 cmH2O
Inspiratory Time	0.1 – 2 sec
Expiratory Time	0.2 – 30 sec
Maximum Rate (based on Insp. Time and exp. Time)	200 bpm
Inspiratory flow	1 – 30 lpm
Expiratory flow (VIVE)	1 – 30 lpm
Slope control	0 - 2 sec.
FiO2 (integrated blender without bleed flow)	21 - 100%
Trigger	0.03 – 3 ml adjustable in scale of 1 to 10 (1 most sensitive and 10 least sensitive).
I:E Ratio (dependant on Insp.Time and Exp.Time)	3:1 to 1:300
Automatic altitude compensation	780 – 1060 hPa/ mbar/ CmH2O/

The real time data should be monitored at Y-piece for:
 Pressure - Peak, Plateau, Mean, CPAP/PEEP
 Expired Tidal Volume (Monitored), Expired Minute Volume, leakage in %
 Frequency/ Rate - Set (Inspiratory), Spontaneous MV in %, total , I:E ratio
 FiO2
 Lung Mechanics - Resistance, Compliance , C20/C, Time constant
 Tc, RVR
 Integrated graphical trend
 Integrated alarm log

Should have automatic alarm settings for all alarms with clear text messages/ corrective action for:

- Disconnection
- Tube blocked
- Ventilation hose kinked
- High/low Pressure
- High/low Minute Volume
- High Rate
- High Tidal Volume
- Apnoea / apnoea alarm time
- High/low O2 % (automatic settings)

		<p>Oxygen line failure Compressed air failure Total electronic failure (with error code)</p> <p>Scope of supply should include Basic Unit (220 - 240 V) Modular corrosion free Trolley - of same make as the quoted brand <u>and no local substitute will be accepted/ should be offered.</u> Silicon heated Hose set for use for neonatal patients Standard Servo controlled humidifier with reusable chamber Air Compressor of same make. Heated Flow sensor - 10 no.s Three O2 cell Nebulising facility Oxygen connecting Hose – 3 meters Air connecting Hose – 3 meters Hinged arm Support for patient circuit – should be of same make as the quoted brand and <u>no local substitute will be accepted/ should be offered</u> Neonatal test lung with variable compliance and resistance Instruction Manual</p> <p><u>Quality Standards and Support requirements –</u> The unit also should have FDA certification The unit should comply with relevant IEC Certification Ventilator should have two hour battery backup. In case of low battery backup supplier should supply UPS compatible with supplied ventilator</p>
	Bubble CPAP	Under process of R/c hence deleted
	Phototherapy LED	Under R/c hence deleted
	Urethroplasty set	Same as item no.60 hence deleted
	Flexible esophageal bougies	Same as item no.67 hence deleted
	Medicine Trolley Cum crash cart	under process of R/c hence deleted
	Infant Warmer For environmental precise control effective isolation, adequate, oxygenation of surgical neonate and for continuous monitoring of respiratory	Under process of R/c hence deleted

	assessment of new born																										
7 7	Treonic Infusion Pump Small amounts of L.V. fluids effectively controlled and monitored by this Pump	Fully programmable; automation capable Operates stand-alone or from a computer Infusion and withdrawal Set a single pumping rate and/or dispensing volume Program up to 41 pumping phases that change pumping rates, set dispensing volumes, insert pauses, control and respond to external signals, sound the buzzer Network, control, and monitor up to 100 pumps with one computer Motor stall detection Dispensing accuracy of +/-1% Unlimited lifetime technical support																									
7 8	Paediatric Sigmoidoscope & colonoscope	<table border="1"> <tr> <td rowspan="4">Angulation</td> <td>Angulation Range Up</td> <td>180</td> </tr> <tr> <td>Angulation Range Down</td> <td>180</td> </tr> <tr> <td>Angulation Range Right</td> <td>160</td> </tr> <tr> <td>Angulation Range Left</td> <td>160</td> </tr> <tr> <td rowspan="4">Insertion Tube</td> <td>Insertion Tube Diameter</td> <td>13.3 mm</td> </tr> <tr> <td>Instrument Channel Diameter</td> <td>3.7 mm</td> </tr> <tr> <td>Working Length</td> <td>73 cm</td> </tr> <tr> <td>Total Length</td> <td>103cm</td> </tr> <tr> <td rowspan="3">Optical System</td> <td>Field of View</td> <td>140</td> </tr> <tr> <td>Direction of View</td> <td>Forward</td> </tr> <tr> <td>Depth of Field</td> <td>5-100 mm</td> </tr> </table>	Angulation	Angulation Range Up	180	Angulation Range Down	180	Angulation Range Right	160	Angulation Range Left	160	Insertion Tube	Insertion Tube Diameter	13.3 mm	Instrument Channel Diameter	3.7 mm	Working Length	73 cm	Total Length	103cm	Optical System	Field of View	140	Direction of View	Forward	Depth of Field	5-100 mm
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	Paediatric Bronchoscope	Under process of R/c hence deleted																									
7 9	Paediatric laparoscope	<p>C02 Insuffiator Model Proflow 20 Insuffiator with Bacterial Filter Fully Automatic, Electronic, digital, C02 Insuffiator Maximum Flow rate 20 liter / min Simultaneous adjustable & Digital Displays Preset pressure, actual pressure, preset flow rate, actual flow rate, and volume of C02 gas consumed. Built in release valve to vent relieve the over pressure in the pneumoperitoneum. Total volume of C02, & Monitor for intraabdominal pressure Audio & visual C02 Cylinder gas status & overpressure alarm. Warmer facility Accessories -Silicon tube, power supply cord, etc</p> <p>CO2 Cylinders, two of different size, compatible with C02 Insuffiator</p> <p>Telescopes</p> <p>Telescope –7 mm, 0° Wide angled, Autoclavable, Three type of adaptors for fibre Optic cable</p> <p>Telescopes</p>																									

		<ul style="list-style-type: none"> • Telescope –5 mm, 30° Wide angled, Autoclavable, Three type of adaptors for fibre Optic cable Telescope 1 No. Straight forward telescope 0o enlarged view 10mm diameter, length 31cm. autoclavable
		Telescope Straight forward telescope 0o diameter 5mm, length 29cm. autoclavable. enlarged view
		Telescope Forward - Oblique Telescope 30o , diameter 10mm, length 31Cm. autoclavable enlarged view
		Telescope Forward - Oblique Telescope 0o , diameter 10mm, length 31cm. autoclavable enlarged view
8	<u>Hand 0 Instruments Set:</u>	Veress Needle -2mm, 120mm, spring loaded small
		Sheath / Cannula - Size -7mm, flap valve with Manual Activation, Autoclavable, Reusable.
		Sheath / Cannula- Size –5mm, flap valve with Manual Activation, Autoclavable, Reusable.
		Sheath / Cannula - Size -3mm, flap valve with Manual Activation, Autoclavable, Reusable.
		Trocar & Cannula with multifunctional valve 11mm
		Trocar & Cannula with multifunctional valve 6mm
		Trocar with pyramidal tip - Size 7mm, sharp type, reusable.
		Trocar with pyramidal tip- Size 5mm, sharp type, reusable.
		Trocar with pyramidal tip -Size -3mm, sharp type, reusable.
		Reducer sleeve with silicon latch, conversion of 5 to 3 mm
		Reducer sleeve with silicon latch, conversion of 7 to 5mm
		Reducer sleeve with silicon latch, conversion of 10 to 5mm
		Universal Grasping forceps - Size -3mm Insulated, Autoclavable, Rotatable, Dismantable in two parts, Double action jaws, with HF connection, extra insert
		Atraumatic Grasping force - Size -3mm Pointed, cross-toothed, Insulated, Dismantable in two parts, Autoclavable, Double action jaws with HF connection, extra Insert
		Right angled mixer forceps - Size -3mm, Insulated, Dismantable in two parts, Autoclavable, Double action jaws with HF connection, extra insert
		Allis forceps - Size -3mm Dismantable in two parts, Autoclavable, Double action jaws With HF connection, extra insert
		Babcock forceps - Size -3mm Dismantable in two parts, Autoclavable, Double action jaws With HF connection, extra insert
		Dissecting & Grasping forceps "Dolphin"- Size -3mm Insulated, Dismantable in two parts, Autoclavable, Double action jaws with HF connection, extra insert

Dissecting Forceps - Size -3mm, Curved Maryland, Insulated, Autoclavable, Rotatable, Dismantable in two parts, Double action jaws with HF, Connection, extra insert
Metzenbaum curved scissor- Size -3mm Insulated, Rotatable, Dismantable in two parts, Autoclavable, Double action jaws with HF connection.
Micro scissor-straight – Size 3 mm Rotatable, Dismantable in two parts, Autoclavable, Single action jaws with HF connection
Scissor - Hook tip - Size -3mm Rotatable, Dismantable in two parts, Autoclavable, Single action jaws with HF connection
Claw Forceps – Size 3 mm, 2 X 1 teeth, single action jaws, Rotatable, Dismantable in two parts, Autoclavable. extra insert
Biopsy Forceps – Size 3 mm, Spoon shaped, Plain Single action jaws, Rotatable, Dismantable in two parts, Autoclavable.
Biopsy Forceps – Size 5 mm, Spoon shaped, Plain Single action jaws, Rotatable, Dismantable in two parts, Autoclavable.
Fan Retractor – Size 5 mm Double action jaws, Rotatable, Dismantable, Autoclavable.
Cuschieri liver Retractor – Size 5 mm Double action jaws, Rotatable, Dismantable, Autoclavable.
Clip Applicator – Size - 5mm, LT-200 Rotatable with flushing channel for cleaning, for small clips Reusable,
Clip Applicator – Size - 5mm, Medium, LT-300 Rotatable with flushing channel for cleaning, for medium Clips, Reusable,
Unipolar connection cable (Monopolar HF cord)
Suction - Irrigation Cannula - Size -3mm, With thumb controlled, rotating adaptor, tubes
Suction - Irrigation Apparatus
Hook electrode- 3mm, 'L' shape
Spatula electrode - Size -3mm
Endoscopic bipolar diathermy probes
Endoscopic Monopolar diathermy hook
Bipolar Forceps - Size -3mm, Alligator tip, with cord
Bipolar Forceps - Size -3mm, Flat tip, with cord
Knife – one set
Intestinal clamp, compatible with Paediatric set
Endoscopic Stapler, Linear cutting, reusable, compatible with Paediatric set
Needle Holder – Size 5 mm, Straight jaw
Needle Holder – Size 5 mm, Curved jaw
Aspiration Needle – size 3 mm
Endo loop introducer – 5 mm

		Roeder's knot pusher, size 3 mm
8 1	Paediatric Operation Table Electronic Controlled	C-arm compatible insulated operation table made with whole table top made up of radiolucent material and automated table top movement, is able to bear a max of 200 kg patient weight with hydraulic driven feet. Besides the usual automated movements, back plate movements and longitudinal shift are also automated and desired position is achieved by simply one touch
	LED Light (Light Source)	Under process of R/c hence deleted
8 2	Harmonic knife	<ol style="list-style-type: none"> 1. Ultrasonic generator with fixed frequency of 55.5 KHz with transducer and footswitch capable of incising tissue and providing hemostasis with minimal thermal injury. 2. It should have 5mm instruments/probes/shears. 3. It should have capacity of 5mm vessel sealing with lap and open shears. 4. It should have 3 different audible tone settings possible. 5. The probe of the Coagulating shear should be 360° rotatable and capable of working in three modes-Flat, Blunt and Sharp mode. 6. It should have option of hand activation with bilateral MIN and MAX switches 7. It should have a provision for connecting 2 footswitches for two surgeons to work simultaneously. 8. It should have self-diagnostic mode to detect any problem with generator, footswitch, transducer or instruments. 9. It should have an audible indicator for active shear/probe/instrument 10. It should have a warning system for a worn out probe/shear/instrument with error codes. 11. It should have a maximum of 5 power level settings with power level display of both MIN & MAX 12. Frequency of vibration should be same for both open and lap probes/shears/instruments 13. It has a vibration range of 50-110 microns (micro meters, μm) 14. The system can be put in standby mode for better safety. 15. It should not be combined with an Electrosurgical unit 16. It should be functional for both Laparoscopic and Open surgeries. 17. It should have an option of using 5mm hand activated Laparoscopic Shears. <p>Accessories (a) Wrench (b) Test Tip (c) Transducer for shears (d) Transducer for fine dissecting probe</p> <p>Open surgical instruments: (a) Coagulating Shears-Open (b) Coagulating Shears-Open Curved Mode (c) Fine dissection probe for Thyroid and auxiliary dissection.</p> <p>-2-</p> <p>Laparoscopic Instruments (a) 5mm coagulating shears – lap 36cm and 45 cm.</p>
	PCNL set	Same as item no.55 hence deleted
8 3	Pediatric Ureteroscope	<p>Needle Ureteroscope</p> <p>Description</p> <p>4.5/6 Fr. Needle Scope, 45° Offset Eyepiece, 5° Viewing Angle, 3 Fr. Insert Capacity, 315 mm Working Length</p> <p>4.5/6 Fr. Needle Scope, 45° Offset Eyepiece, 5° Viewing Angle, 3 Fr. Insert Capacity, 430 mm Working Length</p> <p>4.5/6 Fr. Needle Scope, Straight Eyepiece, 5° Viewing Angle, 3 Fr. Insert Capacity, 315 mm Working Length</p>

		<p>4.5/6 Fr. Needle Scope, Straight Eyepiece, 5° Viewing Angle, 3 Fr. Insert Capacity, 430 mm Working Length</p> <p>Ultrathin Ureteroscope: Description 6/7.5 Fr., 5°, 330 mm Working Length 6/7.5 Fr., 5°, 430 mm Working Length</p> <p>D.O.C. Dual-Channel Ureteroscope Description 6.5/8.5 Fr., Dual Channel, 5°, 330 mm Working Length 6.5/8.5 Fr., Dual Channel, 5°, 430 mm Working Length</p> <p>Accessories for D.O.C., Ultrathin, and Needle Description Flexible Biopsy Forceps, 4 Fr., 600 mm Flexible Alligator Forceps, 4 Fr., 600 mm Flexible Mouse Tooth Forceps, 4 Fr., 600 mm Flexible Button Electrode, 3 Fr., 570 mm Flexible Alligator Forceps, 3 Fr., 530 mm Flexible Biopsy Forceps, 3 Fr., 530 mm Flexible HF Button Electrode, 3 Fr., 920 mm</p>
84	Operating Room High Definition Video System for laparoscopy and endourology OR HD Video System	<p>Description Glider Video Cart Side Arm for Glider Cart Camera Kit, HD, 1080p, Includes Camera Head, Controller, and Cables 26" LED Backlit Monitor HD Digital Recorder HVO-1000MD w/ Blu-Ray™ Burner 15" Touch Screen for HD Recorder HD Printer UP-DR80 for HD Recorder 300 W Xenon Light Source Fiber Light Cable, 2.5 mm, 3 M Long</p>
85	Neonate Transfer Incubator	<p>Physical Attributes (without options/accessories) with 147 stand Height 32 in (81.3 cm) max- 44in (111.8 cm) Width 22.3 in (56.5 cm) Length 40.3 in (102 cm) Weight 159 lbs (72 kg) Distance from vertical hood to mattress High Hood 9.84 in (25 cm)</p> <p>Standard Features Double wall Skin temperature probe O2 inlet Examination lamp 2 access doors 2 disposable infant restraint straps 1 Iris port 2 Quiet Touch™ port doors 6 tubing ports Locking power control receptacles DC cable 2D or 2E size tank mounts The tank mount permits mounting gas cylinders with a diameter of up to 4.5 in (11.6 cm) and up to 34 in (85 cm) in length</p>

Humidity Pad(2)General Specifications
O2 concentration range 21% to 58% minimum
Humidity capacity 50% to 70%
Noise level <60 dBA(3)
Performance Characteristics
Temperature set range 22.0° C - 38° C (71° F - 100° F)
Temperature rise time 30 minutes
Temperature variability ≤1.0° C
Temperature overshoot ≤2.0° C
Temperature uniformity ≤1.0° C
Correlation of display temperature to set point at temperature equilibrium ≤ 2.0° C in 10-20° C ambients ≤1.5° C in 20-30° C ambients
Humidity pad Holds 400 ml.(14 oz) sterile distilled water with no significant spillage for up to 45° tilt in either direction.
Air filter Removes >99% of airborne particles greater than 0.5 micron diameter
Relative humidity 50 to 70% for 10-12 hours using humidity pad
Check calibration key 36.0° ± 0.1° C
Controller Displays
On/standby Illuminates when “On”
Battery condition status 4 LED indication of battery charge condition 25-100%
Power mode Illuminates AC, DC, or external DC
Heater power 4 LED indication of heater power; 25-100%
Baby temperature ° C Displays infant temperature
Air temperature ° C Displays incubator air temperature
Set temperature Illuminates when changing set temperature
Alarm indicators High temp, Power fail, Sensor fault, Heater temp, Air flow, Low DC
Battery Specifications(4)
Incubator 1 battery standard
Type Vented rechargeable, 12 Vdc, 24 AH gel-type battery (lead acid)
Battery rating Incubator maintains a differential of 25° C (77°F) between ambient and set point for 90 minutes on 1 battery or 180 min. on 2 batteries at full heater power
Life expectancy 200 complete charge/discharge cycles minimum
Charge time 10 hours per battery from full discharge
TECHNICAL SPECIFICATIONS DRÄGER ISOLETTE® TI500
INCUBATOR
Safety Alarms
High temperature. Actuates if incubator air temp. >39 ± 0.5° C
Sensor (temperature) Actuates if sensor fails
Heater temperature Actuates if heater temp >77° C (170° F)
Power fail Actuates if AC fails and no DC power present, and activates if unit switches from AC to DC current
Air flow Actuates for fan failure
Low DC Actuates if DC<10.5 Vdc, or external 28 Vdc falls below 25.5 Vdc nominal
Silence/reset Silences the audible portion of alarms for 5 minutes, except Power fail.
Resets Sensor & High Temp alarms after 100% conditions corrected.
Resets intermittent power alert if unit switches from AC to DC current
Environmental
Storage temperature -40° C to 70° C ambient

		<p>Operating range Sea level to 3 km (10,000 ft.) non--pressurized environment. Sea level to 12 km (40,000 ft.)-pressurized environment Relative Humidity Operating range 0% to 95% RH, non-condensing Electrical AC power requirements 110/120 V, 50/60/400 Hz - 220/240 V, 50/60/400 Hz DC power requirements 11-13 V, 200 W (max) - 26-30 V, 200 W (max) Observation lamp 35 footcandles - 4 inches above mattress 376 lux - 10 cm above mattress</p>
8 6	Pediatric Urodynamics and Anorectal Manometry composite machine	<ol style="list-style-type: none"> 1. Should have the facility to perform Flowmetry, Cystometry, Pressure Flow studies with EMG, Biofeedback Software for Pelvic Floor Training and Anorectal Manometry 4 channel with water Charge Technique. 2. System should be based on modular concept and should have the facility to be upgradable to Video Urodynamics, Urethra Pressure Profilometry and Leak Point Detector. 3. Should have facility to attach 2 Uroflow transducers. Should be supplied with one weight based Uroflow transducer with flow range of 0-50ml/sec, Volume Range up to 1000ml. Must have auto record and auto zero facility for uroflowmeter. 4. Second Uroflow Wireless 5. Should have 8 pressure channels and should be supplied with 2 reusable pressure transducers. With facility of software controlled transducer calibration. And should be able to display upto 16 channels. Transducer should be reusable with automatic zero facility, pressure range of (-40-350cm) of H2O. 5. Should be supplied with EMG module – 2 Nos. 6. Should be supplied with biofeedback software for pelvic floor training. 7. Should be supplied with Anorectal Manometry 4 pressures channels and should use water charged catheters for the evaluation 8. Should have infusion volume up to 1000ml and software based calibration control. 9. Should have US FDA approval. 10. Should be supplied with integrated travel cart to fit the complete UDS along with PC. 11. Should be supplied with PC Window 7 PRO (Core i3 Duo Processor, 320 GB Hard Disk, LAN, Audio, SATA, 2 GB RAM, and DVD-RW with Printer (DeskJet). 12. Should be supplied 19 inch flat monitor for display. 13. Should have Bluetooth data transfer facility for all measurements from

		<p>processing unit to measurement unit.</p> <p>14. Should have ICS Nomogram, Sirosky & Paediatric Nomogram.</p> <p>15. Should have in built pump for infusion with filling rate of 5ml/min-40 ml/min with software controlled pump calibration with filling volume of 0-1500ml.</p> <p>16. Should have Facility to compare the waveforms with standard evaluations.</p> <p>17. Should be supplied with radio-transparent commode chair for micturation studies.</p> <p>18. Should be supplied with following:</p> <ol style="list-style-type: none"> a. 2 Lumen Catheter 8 Fr. - 05 Nos. b. 3 Lumen Catheter 7 Fr. - 05 Nos. c. Rectal catheter 10 Fr. - 05 Nos. d. Pump tube - 05 Nos. e. Surface Electrodes for EMG - 05 Nos. f. Measurement tubing - 05 Nos. g. Water charged catheter, Anorectal manometry - 02 pcs <p>20. Firm should quote rates of all Consumables/Disposables separately for 2 Years</p>
<p>8 7</p>	<p>Warming mattress</p>	<p>Mattress Construction: Flexible polymer heating sheet, with 18mm foampressure relief pad under and 305 g.m-2 expanded polyester omfort lining over. Encapsulated in latex-free nylon fabric cover, with non-microporous Polyurethane coating. In-built temperature sensor and over-temperature thermal cut-out. Temperature Output Range: User-selected ranges within the band: 28°C to 39°C (82°F to 102°F) in steps of 0.5°C (1°F) Over-temperature safety cut-out at 43°C (109°F) Power: Control Unit: 100 Vac or 110 Vac or 230 Vac (±6%), 50Hz/60Hz, 75W Control Unit: 100 Vac to 240 Vac (±6%), 50Hz/60Hz (auto-ranging), 100W Battery Input Integrated battery module Capacity: 4 hours for standard mattress (NCM1) from full charge Charging: Automatic charging when mains power applied 18 hour charge time from complete discharge to fully charged D.C. Input: 12Vdc to 28Vdc (±10%) Mattresses and Blankets: 24V to 26V (nom.) 20 W to 45 W, depending on size. Dimensions: Type: Size: Weight: CosyTherm Control Unit: CCU1 160 x 240 x 230 mm 4.1kg Mains and Battery: CCU201 285 x 150 x 125 mm 3.2kg Mains, Battery and D.C. Input: CCU202 285 x 150 x 125 mm 4.0kg Mattresses & Blankets: NCM1 610 x 340 mm 0.6kg NCM2 730 x 580 mm 1.1kg NCB1 450 x 500 mm 0.4kg</p>

		<p>Other dimensions available on request.</p> <p>Compliance: EN60601-1, Class IIb, Type BF EN60601-2-35 EN60601-1-2 93/42/EEC, EEC Medical Devices Directive 73/23/EEC, EEC Low Voltage Devices Directive</p> <p>Environmental : Ambient (Operating): 10°C to 40°C (50°F to 104°F) Ambient (Storage): -10°C to 55°C (14°F to 131°F) Relative Humidity: 30% to 75%</p>
8 8	Pediatric Video Gastroscope	<p>Flexible Video Endoscope</p> <p>Product Name Pediatric Gastroscope</p> <p>Angulation Range Up210 Angulation Range Down90 Angulation Range Right100</p> <p>Product Information Class Flexible Video Endoscope Pediatric Gastroscope</p> <p>Type of Scope Gastroscope Angulation Range Up210 Angulation Range Down90 Angulation Range Right100 Angulation Range Left100 Insertion Tube Diameter8.5 mm Instrument Channel Diameter2.2 mm Working Length103 cm Total Length133 cm Optical System Field of View120 Direction of View Forward Depth of Field3-100 mm Compatible With Light Sources</p>
	Suction Machine	Under process of R/c hence deleted
	Pulse Oximeter	Under R/c hence deleted

Schedule-2:

Technical Specification for Ophthalmology-23

S No	NAME OF EQUIPMENT	SPECIFICATION
1	Spectral domain OCT	Optical source Superluminescent diode (SLD), 840 nm Scan speed 27,000-45,000 A-scans per second A-scan depth

		<p>2.0 mm (in tissue), 1024 points Axial resolution 5 µm (in tissue) Transverse resolution 15 µm (in tissue) Fundus Imaging Model 4000 Methodology Line scanning ophthalmoscope Live fundus image During alignment and during OCT scan Optical source Superluminescent diode (SLD), 750 nm Field of view 36 degrees W x 30 degrees H Frame rate >20 Hz Transverse resolution 25 µm (in tissue) Iris Imaging Methodology CCD camera Resolution 1280 x 1024 Live iris image During alignment Electrical, Physical and Environmental Weight 83 lbs (38 kg) Dimensions of Instrument 26L x 17W x 21H (in) 65L x 44W x 53H (cm) Dimensions of Table 39L x 22W (in) 99L x 56W (cm) Fixation Internal, external Internal fixation focus adjustment -20D to +20D (diopters) Input devices Keyboard, mouse Electrical rating (115V) Single Phase, 100-120V~ systems:50/60Hz, 5A Fuse rating (115V) T 5A 250V Electrical rating (230V) Single Phase, 220-240V~ systems:50/60 Hz, 2.5A Fuse rating (230V) T 5A 250V Temperature (transport and storage) -40° to +70° C</p>
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		<p>Relative humidity (transport and storage) 10% to 100%, including condensation Atmospheric pressure (transport and storage) 500 hPa to 1060 hPa Temperature (operation) +10° to +35° C Relative humidity (operation) 30% to 75%, excluding condensation Atmospheric Pressure (operation) 700 hPa to 1060 hPa Internal Computer Processor Intel® Core™ 2 Quad Memory 4GB Hard drive / Internal storage ≥ 750 GB > 80,000 scans Display Integrated 15” color flat panel display CD/DVD DVD-Multi drive Software Features Raster Scans Enhanced HD Raster</p>
2	High End Vitrectomy Machine	<p>. Equipment console:- User Interface : TET, 10.4" Touchscreen, 640 x 480 dpi, VGA colour. Surgeon record: Each surgery datas recorded internally and can be retrived or take print for statistical purpose Automatic Cart for Bottle : Programmable and controlled by pedal and console Function change indication : Audiable tone indication Dual independent lamps (Xenon and Mercury) Safty : Error message in display if any malfunction of unit Programmability: 15 main program and 14 subprogram for each program. Customized Module : Diathermy module, Phaco and fragmentome module, pneumatic cutter module, Air exchange module, silicon oil infusion & extraction Module and active extrusion module. Foot Pedal : Double linear or logirthem control foot pedal with additional 4 bumper with fully customized as per the surgeons desire like functions, program changes, macro control, pitch lear movements and adjustable force High Speed Vitrectomy : Cutting frequency - 5000 cuts /min, 20, 23 and 25 guage compatible, Pneumatic and Electric Drive for pneumatic and electric vitrectomy. Vitrectomy Due Mode, Downwards dual linear control of cutting speeds and aspiration for core. Vitrectomy (Anterior and posterior) : Cutter Type : Pnematic Guillotine cutter</p>

		<p>Cutters : 20G Resuable or disposable 23G, 25G and 27G</p> <p>Pressure : 2.5 Bar</p> <p>Pulse Time : 20ms + or - 1 ms</p> <p>Cutting rate : From 60 to 5000 cpm (higher cutting range)</p> <p>Retaining pressure : 1 Bar</p> <p>Actuating system : Pressurized air or Gas from Compressor</p> <p>Control : Fixed, Linear, Curve linear and independent flow and vacuum and cutting control with adjustable duty cycle</p> <p>Aspiration : Using venture pump & peristaltic pump (dual) Range 10 to 500 mm of Hg.</p> <p>Infusion : Gas forced infusion system with 3 way connector for the global maintenance of anterior and posterior segment pressure.</p> <p>Diathermy :</p> <p>Operating frequency : 2.2 MHz</p> <p>Nominal Power : 1 SW at 100 ohm</p> <p>Posterior Vitrectomy Machine Essential Accessories</p> <p>1 Xenon + 1Mercury Lamp Assembly</p> <p>Fragmentation Handpiece</p> <p>Xenon Lamp Replacement</p> <p>Mercury Lamp Replacement</p> <p>Fragmentation Needle 15 deg single use</p> <p>Posterior Procedural Pack includes Integrated Vented AFI High Speed (30-5000cpm) Anterior Vitrectomy Cutter Pack</p> <p>Silicone -Oil 5000CentistokeOil</p> <p>10 DoseCylinder of SF6</p> <p>10 DoseCylinder of C3F8</p> <p>Universa I Gas Kit</p> <p>Cylinder Tank Stand</p> <p>Standard Gas Regulator</p> <p>Viscous Fluid Extraction Kits</p> <p>23G Single Use Endgripping VR Forceps</p> <p>25G Single Use Endgripping Forceps</p> <p>Plug Removal Forceps</p> <p>Stabilizing Plate</p> <p>23G 23G Reusable BackflushCannula</p> <p>25G 25G Reusable BackflushCannula</p> <p>Banana Plug Adapter</p> <p>25G MVR Blade</p> <p>20G Reusable Soft Tip AspiratingCannula</p> <p>23G Soft TipCannula</p> <p>25G Soft TipCannula Fluid Injection Kits</p>
3	Viewing system for vitrectomy, with dedicated binocular tube (contract vitrectomy viewing system)	<p>Wide Observation Field</p> <p>Automatic inversion</p> <p>Excellent depth of field</p> <p>View through small pupils >3mm</p> <p>See around corneal scars</p> <p>View through lens opacities</p> <p>Great view under air</p> <p>No contact with cornea</p> <p>Mounted to microscope for stability</p> <p>Eye may be rotated freely</p> <p>No contamination under lens</p> <p>No assistant required to hold lens</p>

		<p>Adaptability to takagi and zeiss microscope</p> <p>One set of disposable BIOM lenses</p> <p>One disposable flat contact lens</p> <p>One prefilled syringe of irrigation device for cornea</p> <p>Two disposable drive belt for BIOM 3c/4c system</p> <p>One disposable thumbscrew cover for dovetail</p>
4	Vitreo retinal surgical instrument set with viewing lens set	<p>Lightweight titanium handle</p> <p>Rounded grip area</p> <p>Micro scissors – straight ,angled and curved</p> <p>Micro End Gripping Forceps</p> <p>Pick forcep</p> <p>Foreign body forcep</p> <p>Subretinal and ILM Instruments Long Angled Scissors</p> <p>Membrane spatula 2.0mm Angled, 20 G</p> <p>Membrane spatula knife 5.0mm Angled All Edges Sharp,20 G</p> <p>Membrane peeler 1.0mm Angled,24 G / 0.6mm</p> <p>Microrhexis forcep 23 G</p> <p>VITRECTOMY LENS SET</p> <ul style="list-style-type: none"> • MILR - Silicon ring • MILR1 - Stainless steel ring with two notches • MILR2 - Stainless steel ring with two struts • MIL1 - Machemer flat lens • MIL2 - Tolenteno prism lens 20? • MIL3 - Tolenteno prism lens 30? • MIL4 - Machemer magnifying lens • MIL5 - Paymen wide field lens • MIL6 - Landers biconcave-90 D lens • MIL7 - Woldoff prismatic biconcave lens
5	Operating Microscope with BIOM & accessories	<p>Microscope</p> <p>A binocular stereoscopic type microscope with built in illumination provided with facility for changing the magnification without disturbing other alignments ie., when the magnification is changed the image remains in focus.</p> <p>The specification mentioned below are minimum requirements :</p> <p>Binocular optical head with coaxial illumination.</p> <ol style="list-style-type: none"> i. Eye piece wide field minimum 10 x 12.5 x individually adjustable. ii. Inclined binocular tube 45 degree. iii. Should have dioptric adjustment of + 5.00 to - 5.00 <p>Interpupillary distance : 55 mm to 75 mm</p> <p>Objective lens : Focal length (f minimum 175 + 25 and above)</p> <p>Working distance : To be stated for each alternative not less than 150 mm.</p> <p>Total magnification 4 to 175.5 x or more (continuous magnification)</p> <p>Assistant binocular microscope (Assistoscope) Assistant microscope to match the focusing of main microscope.</p> <p>Zooming ratio (1:6)</p> <p>Filed of vision : Range 40 mm to 60 mm or more (at the minimum magnification)</p>

		<p>Focussing (motorized) : Zoom foot pedal control. X-Y coupling foot pedal control. Control for illumination intensity control Speed of Zoom and X-Y adjustable Centering switch Footswitch Large easy manipulation Controls for Illumination on / off Illumination intensity Zoom X-Y Illumination Intensity : To be stated in lux minimum 80,000 Luxor more. Type : coaxial dual lamp/by optical light guide. (Halogen bulbs, no of bulbs volatage, wattage and secondary powder source to be stated by tenderer) with fan cooling arrangement Field : Range 45 mm to 60 mm or more UV filter : U.V. Filter switchable facility for occluding pupillary light. Apochromatic optics, anti-reflex multicoating white light. Beam Splitter Observerscope for assistant (same view as surgeon's) Video attachment HD (high definition) CCD camera for display and direct DVD recording facility. Construction (Mounting and adjustment) A. Arms : Counter balanced spring type Horizontal length of arms : To be stated not less than 800 mm Range of vertical adjustment : 300 to 550mm or more Rotation of arms : Not less than 300 degree B. Base : The base should be stable and should not topple when optical units articulated arm is fully extended. Dimension of base in mm to be stated by the bidder. C. Means of Mobility : To be stated and stability and safety arrangements described in details by the bidder Packing and Packaging The microscope and other detachable components shall be packed in a permanent box having suitable grooves with the same configuration as the microscope/components so as to hold them intact without any movement or play to avoid and damage during transit. The base, upright and other accessories shall be packed in separate boxed during transportation with suitable packing/ cushioning in so as to prevent any damage during transit. Quality Requirement The manufacturer should describe fully operational, quality plan in the bid. in addition, each instrument shall be tested by the manufacturer after completion and prior to packing for all movement, adjustment and accuracy. Copies of such test certificates for each test with reading recorded obtained shall accompany each instrument. The product should be certified for international quality standards as</p>
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		<p>CE/FDA. Electric supply at AC 220 to 240 V, 50 Hz. Spares Twelve sets of bulbs, rubber caps for eyepieces 12 Voltage stabilizer & UPS/ dust cover Standard Accessories CE/ Necessary certification</p>
	Phacoemulsification unit	Under R/c hence deleted
6	Automated Perimeter	<p>Direct projection system -30 Different programmes strategies for macular neurological and glaucoma evaluation Motorized auto eye trashing with 100% fixation control Video eye monitor-infrared sensitive eye camera and video display. Automatic avg pupil size measurement. Stimulus size (goldmann III & V) Stimulus and intensity (0-10000 asb) USB , serial and parallel ports. Colour printer Option for downloading software versions from internet Bidirectional PC connection options Integrated LAN adaptor with Ethernet output Power requirement->100-240 VAC, 50/60 HZ, 40VA.</p>
7	Fundus Flouroscein Angiography(Digital)	<p>Microprocessor Controlled Digital Cameras with multiple field angle from 20 degree to 60 degree. Facility for small pupil angiography (with up to 4mm pupil) Working distance 45mm or less. Examiner diopteric compensation (-23 d to +23D). Optical Head Tilt +15 degree/ -10 degree. Spanning +/-30 degree horizontal (right & left). Base movement in vertical ,forward/backward & right/left direction to be provided. Face rest movement > 50mm with internal fixation facility to be provided. Upgradable to ICG ANGIOGRAPHY and digital recording,storing and reproduction Equipment shall be CE marked.</p>
8	Specular biomicroscope	<p>International standard non contact specular microscope Endothelial imaging and endothelial cell analysis – no. of cells/ cell density/ cell area/ SD, CV, MAX,MIN polymegathism, pleomorphism Corneal thickness measurement Wide area of measurement with pacentral imaging Autoindication of optimum images Automated cell analysis Autotracking & auto shooting Tiltable LCD touch panel Facility for donor eye attachment Corneoscleal button holder Complete latest softwareFacility for data storage and printing Motorized table</p>

		<p>Voltage stabilizer and UPS to be provided CE and other necessary certifications Plus standard accessories and dust cover</p>
9	Slit lamp with photography facility	<p>Binocular biomicroscope with a slit lamp system for providing desired type of illumination for various types of examination of the eye</p> <p>Microscope section</p> <ol style="list-style-type: none"> 1. Type- slit lamp binocular biomicroscope 2. angle of optical axis: the offset of the left and right optical axis should be within 40 minutes in up and down direction separately and within 1 degree in outward. However a binocular biomicroscope of which optical axis of left and right oculars are not parallel is excluded 3. controlled magnification - should be in steps 5 STEPS 4. objectives- paired 1x and 1.6x objective lens focal lens(100-125) to be stated by the bidder 5. eye pieces- 10x and 16x (range of dioptric adjustment to be stated by bidder (atleast 7 dioptries) 6. interpupillary distance 50mm to 75mm. 7. magnification and field of view eye piece 10x objective 10x magnification field 18mm. 15mm. 11mm <p>B</p> <p>slit illumination section</p> <p>Slit image with adjustment 0-8mm stepless</p> <p>Slit image length adjustment 0-10mm continuous</p> <p>Diameter of diaphragm approximately or diameter of illuminate 8mm, 5mm, 3mm, 2mm, 1mm and 0.2mm</p> <p>Angle of slit (rotation) +-90 degree</p> <p>Tilt of slit (deceleration) – to horizontal 0 degree to 15 min (steps to be stated by the tenderer)</p> <p>Filters cobalt blue, red free and gray (ND) polarizer other ND filters to be stated</p> <p>Light source- halogen lamps</p> <p>Intensity control of illumination: low, medium and high</p> <p>C</p> <p>Base section and control of movement</p> <p>Type</p> <p>Back and forth movement</p> <p>Vertical movement: mechanism and amplitude of each movement in mm to be stated by the bidder</p> <p>Fine movement</p> <p>Table top dimension</p> <p>D</p> <p>Chin rest assembly</p> <p>Type- mechanical (details to be stated by the tenderer)</p> <p>The digital photographic unit shall be of digital camera, generator, computer with high resolution monitor, 80GB harddisk, software and DVD writer (specify the details of the product and catalogues and technical literature</p> <p>Additional features if any, spare bulbs 5 in No.</p>
10	Visual Electrophysiology	<p>easily perform all the current standard clinical visual function tests, ERG, VEP, PERG, Focal-ERG, EOG, Flash-VEP, Dark</p>

	System	<p>Adaptometry tests</p> <ul style="list-style-type: none"> -Console, PowerBloc, one stimulator. System includes headbox, software, manual, starter pack of electrodes and all cables Portable and self contained (all major electronics in one box) Compact Integrated bright 10.4" TFT LCD screen with infrared touch screen Fast Pentium CPU running Windows 98 with 128Mb RAM, large HDD and 250Mb zip drive Advanced real-time DSP processor based acquisition system 5 integral computer controlled fully isolated differential amplifiers with digital low, high and band pass filters, DC input, (not AC coupled) Sophisticated impedance measurement system allowing individual electrode checking 10BaseT Ethernet connection (on PowerBloc) for simple interfacing to existing networks USB, Parallel, RS232 (Isolated), 10BaseT network connections (on PowerBloc) 5 integral computer controlled fully isolated differential amplifiers with digital low, high and band pass filters, DC input, (not AC coupled) and impedance measurement system Infrared mouse and keyboard included Predefined test protocols and the ability to create new custom protocols Industry standard SQL database using an advanced interface for comprehensive data storage and retrieval - Constant voltage stabilizer compatible to machine
11	Double Frequency Nd Yag LASER (532nm)	<ol style="list-style-type: none"> 1.Solid state diode pumped green laser with thermo electric cooling (TEC) with power 0-1000u. 2.Variable spot size from 50um to 1000um (per focal). 3.Exposure time of 10-2500msec in steps with continuous wave facility, auto repeat interval from 100msec to 1 sec. or more (in steps). 4.Micro manipulator or laser beam should be available. 5.Laser should be integrated with dedicated slit lamp for laser delivery. 6.Cost of slit lamp to be mentioned & included slit lamp for laser delivery. 7.Slit lamp to have 5 step magnification, motorized table for height adjustment. 8.Protective glasses (5 sets) for observers to be provided 9.Laser should have additional endolaser.Indirect Ophthalmoscope (ILO) laser delivery systems with protective filter (5 in no.) Endolaser probes (5 in no.) & laser indirect ophthalmoscope (1 in no.),Laser lenses : PRP lenses (2 in no.) 20-D lenses for ILO (2 in no) 10.Additional features: 3 Mirror Goldmann Contact lens,Macular Grid Lens. 11Pattern scan LASER, VARIABLE MODE
12	Synaptophore	<p>Movement of optical tubes :</p> <p>Horizontal : Adduction +50°</p>

		<p style="text-align: center;">Adduction -40°</p> <p>Vertical : Hyper 30° Hypo 30°</p> <p>Torisional : Incyclo 20° Excyclo 20°</p> <p>Slide Illumination : Rheostat controlled 12V lamp for each slide. After image illumination by 12V lamp (for Better Illumination).</p> <p>Auto Flashing : Auto flashing of slide illumination either simultaneous or alternate in rapid & variable modes.</p> <p>With hadinger brushes</p> <p>Mode & mode selection: Normal, flashing right, flashing left, flashing R+L & auto flashing can be selected by a single selector knob.</p> <p>Motorized instrument table</p> <p>After images using high intensity halogen light sources and condensing systems.</p> <p>Accessories</p> <ol style="list-style-type: none"> 1. Set of slides containing 9 pairs 2. power cord 3. Spare bulbs (4 in number) <p>viii. Quality Requirement</p> <p>The manufacturer should describe fully operational, quality plan in the bid. in addition, each instrument shall be tested by the manufacturer after completion and prior to packing for all movement, adjustment and accuracy. Copies of such test certificates for each test with reading recorded obtained shall accompany each instrument.</p> <p>The product should be certified for international quality standards as CE/FDA.</p> <p>IV Electric supply Electric supply at AC 220 to 240 V, 50 Hz.</p> <p>V Spares</p> <ol style="list-style-type: none"> i. Twelve sets of bulbs, rubber caps for eyepieces 12
13	Ophthalmic diode laser	<p>Complete 808nm/ 810nm continuous wave Diode laser system for functions of retinal photocoagulation including endophotocoagulation, transpullary thermotherapy (TTT) and cyclophotocoagulation</p> <p>Modular console and slit lamp to integrate all above noted functions</p> <p>Power output of at least 2000mW for endo delivery</p> <p>Exposure time range of 0.02- 5.0 sec for photocoagulation and at least upto 10 minutes for other applications. Auto repeat at variable interval range of at least 0.1- 1.0 sec</p> <p>Variable spot size deliveries for different applications ranging from 60um to at least 1000um</p> <p>Red laser target beam</p> <p>One safety filter for Zeiss and takagi microscope & and one pair of safety goggles.</p> <p>One set of fibreoptic endoprobes with at least one 30degree</p>

		<p>bent and rest straight.</p> <p>One reusable probe each for trans-scleral cyclophotocoagulation & retinal photocoagulation.</p> <p>All necessary fibreoptic cables and attachments</p> <p>10 spare halogen bulbs for slit lamp.</p> <p>Power supply: 90-264Vac, 50/ 60Hz, 200VA</p> <p>UPS or similar power protective device for the system</p>
14	Heidelberg retinal tomography II (HRT)	<p>Instrument type: Confocal scanning laser ophthalmoscope</p> <p>Field of View: 15° x 15° (transverse)</p> <p>Scan Depth: 1.0 to 4.0 mm (automatic)</p> <p>Optical Resolution: 10 µm /pixel (transverse)</p> <p>Repeatability: 20 µm</p> <p>Digital Image Size: 2-D image: 384 x 384 pixels 3-D image: up to 384 x 384 x 64 pixels</p> <p>Image file size: 30 MB uncompressed, 5 MB compressed (typical)</p> <p>Scan Time: 2-D image: 24 milliseconds 3-D image: 1 second typical (2mm scan depth)</p> <p>Focus Range: -12 to +12 diopters spherical -6 to +6 diopters cylindrical</p> <p>Minimum Pupil Diameter: ≥ 1 mm</p> <p>Light Source: 670 nm diode laser</p> <p>Image alignment/ artifact rejection: TruTrack™ proprietary software</p> <p>Display modes: Single frame, Multi-frame (movie), 2-D mapping, 3-D mapping</p> <p>Portability: laptop version and carrying case</p> <p>Operating systems: Heidelberg Eye Explorer and Windows XP</p> <p>Networking: Heidelberg Eye Explorer</p>
15	GDx VCC (nerve fiber layer analyser)	<p>Scanning Laser Polarimetry (SLP) imaging technology</p> <ul style="list-style-type: none"> • Portability with unique optics lock-down feature • Non-mydratic operation • New Windows® XP, SP3 • New Prints to virtually any XP supported printer • New Exports files in PDF, TIFF or JPEG formats • New DICOM Gateway • New Automatic mapping to an automatically generated IP address • New Ability to browse the network; network neighborhood available

		<ul style="list-style-type: none"> • New Intuitive Touch Screen or mouse-driven operation requires virtually no experience • New AutoFocus optimizes imaging position • Manual refraction entry • New Live Fundus View ensures proper patient fixation prior to scan acquisition • New Simple-Touch Automatic Pupil Alignment and Touch Screen acquisition require virtually no operator experience • New Restart Alignment quickly returns the alignment back to the default setting • New Low Vision Target accommodates patients with compromised central vision • New Iris Image Check to rule out alignment issues after the scan • New ECC (• Enhanced Corneal Compensation) available standard • VCC available as an alternate analysis mode • New GPA available standard with two options: Fast mode or extended mode • New RNFL Normative database – ECC • RNFL Normative database – VCC • New Nerve Fiber Indicator (NFI) – ECC • Nerve Fiber Indicator (NFI) – VCC <p>Field of view 40*20 degree Processor - \geq 2.2 GHz processor 8.4” screen with 800 x 600 resolution Minimum pupil diameter 2mm Ametropia Correction -13 to +8 diopters DVD-RW media 4 usb ports Complies with the following standards:IEC 60601-1, UL60601-1CSA C22.2 No. 601.1-M90 CVT compatible to machine</p>
16	Corneal Topography analyser	<p>Keratoscope cone 24 rings equally spaced on a 43D sphere analyzed points Over 100,000 measured points Over 10,000 corneal coverage From 0.3 (minimal diameter on a sphere of 43D) up to 10.5mm on a normal eye Diopter power range From 1D to over 120D resolution \pm 0.01D, 1 micron accuracy/precision axial radius \pm 0.03 mm altimetric data \pm 2μm at 4 mm capture system Auto-capture output port USB Environmental Conditions Working environment Temperature 10-40°C Relative humidity 30-75% (no dewing) Atmospheric pressure 700-1060 hPa storage Temperature 10-40°C Relative humidity 30-75% (no dewing) Atmospheric pressure 700-1060 hPa Electric Specifications:</p>

		<p>Manual fine focus to get sharp video image Specification : Binocular indirect Ophthalmoscope 1. Interpupillary distance : 53mm - 76mm 2. Light source : Halogen lamp - 6V/10W 3. Illumination area : f 80mm Camera : 1. Video focusing range : 140mm to 2m 2. Image size : 80mm 3. Resolution : 470 TV lines 4. TV system : PAL 5. Power supply : DC 12V/65mA High resolution A-cam camera.CCD 470,000 pixel,460 lines. Image sensor. 1/2" CCD, color. Fully integrated camera system. No external brackets or prisms. 100% dust proof system. No maintenance required. Water-proof camera head. Can be placed in disinfectant solution Optics specially-developed. Maximum brightness. Focus adjustable for near working distance. From 250 to 800mm. Automatic light boost. Boost function for examinations with low lighting. Compact. Lightweight design (65g, camera head without cable, complete 250 g).</p>
21	Motorized OT table with chair	<p>Operation table Exclusively made for the ophtghalmoc surgery Stable and versatile and ergonomic design for both surgeon and patient comfort. height approx.. 890mm to 610mm for standing or sitting working position Foot switch operated. With smooth ups and down movement Attachement for saline stand (no. 2) Instrument tray with stand Adjustable cushniored head rest Antistatic poly-urethane cushion Adjustable wrist support Trendelenberg (head low position) and reverse trendelenberg facility Choice of head sections for easy access to the patient Maximum leg room and space for equipment pedals The adjustable wrist support to surgeon for better comfort and stability during surgery Trendelenberg (head low position) and reverse trendelenberg facility ensures safety during emergencies. Additional power sockets Surgeon's chair Perfect ergonomics for precision-driven microsurgery Comfortable sitting angles,fit and flexibility Noise-free.foot switch controlled height adjustment. Strong back support with effortless spring action and reclination back Backrest with easy to use height adjustment system</p>

		<p>Flexiuble, yet sturdy arm support Correlated rear wheel lock Comfortable seat with polyurethane cushion</p>
	Boyle's apparatus	Under R/c hence deleted
	ETO sterilizer	Under process of R/c hence deleted
22	Autorefractometer with keratometer	<p>Reliable reputed international standard Tabletop autorefractometer with objective and subjective measurement for spherical and cylindrical lens. Wide spherical in increments of - 0.12D/0.25D. Spherical range -25 to +22D Cylindrical range of $\pm 10D$ (approx.) in increments of 0.12/0.25D with axis range of 1*to 180* in 1*/5* steps Corneal curvature mode Corneal curvature radius - 5 – 10mm (.01mm) Corneal refraction – 67.5 to 33 D (o.12D/ 0.25D) Corneal astigmatism - $\pm 10D$ (o.12D/ 0.25D) 0- 180° in 1° or 5° steps Measuring area – 3mm to 7.7mm radius Colour screen. Auto and manual (selectable modes) Examination should be possible with min. pupil diameter of 2 mm. Interpupillary distance measurement facility with viewing monitor. Built in thermal printer facility. Motorized base. Over refraction indicator and autofocuss facility. Power supply of system of 220/240 V 50-60 hz. Auto calibration eye model</p> <p>Quality Requirement The manufacturer should describe fully operational, quality plan in the bid. in addition, each instrument shall be tested by the manufacturer after completion and prior to packing for all movement, adjustment and accuracy. Copies of such test certificates for each test with reading recorded obtained shall accompany each instrument. The product should be certified for international quality standards as CE/FDA.</p>
23	Flash autoclave	<p>Table top front loading flash autoclave Fast autoclaving with a sterilization time not more than 5-7 minutes of the time taken for heating and build up of correct measurement and pressure. Exterior indicator of cycle & dry vacuum function. Digital timer for wet and dry cycle Technical data: a) Made stainless steel AISI - interiors. b) Fully automatic microprocessor control. c) Sterilization chamber, Volume 24 ltr. low water level protection. d) Door close indication.</p>

		<p>e) Number of cycles 5x1 Rapid.</p> <p>f) Adjectival sterilization pressure/temperature time.</p> <p>g) Connected load 220+/-20v, 50Hz, 16-20 KW (Max absorbed power).</p> <p>Accessories like trays (10 in nos.) lifting handle for trays (two in nos.), tray containers (two in nos.) included.</p> <p>Autodrain of water to the reservoir tank</p> <p>The unit should be ISI/CE approved CE and other necessary certification Standard accessories</p>
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Schedule-3:

Technical Specification for General Medicine 24

SNo	NAME OF EQUIPMENT	SPECIFICATION
	Defibrillator	Under process of R/c hence deleted
1	Central monitor	<p>1. Central Station . it should have large screen (min21”), medical grade resolution TFT/LCD monitor (.1600X1200) with a real time and review screen. Alarms should also be configurable from/at the central station. It should be possible to delete/change/stop an event recognition that is an artifact or erroneous/ not needed. A high end black and white laser printer should be provided.</p> <p>2. Server should have state of the art processor, > 4 GB RAM, 1TB memory inbuilt / external CD/DVD writer, USB ports and necessary software (including updateable / up gradation antivirus if needed.</p> <p>3. A complete UPS system with 15 mins backup will also have provided in the quoted price.</p>
	Invasive bedside monitor	Under process of R/c hence deleted
2	Vascular Doppler Recorder	Hand held vascular Doppler with portal probe
3	Aphasia Examination Kit	<p>Aphasia testing batteries : Testing material and protocols for assessment and therapy of subject with aphasia including</p> <p>(BDAE) Boston Diagnostic Aphasia Examination, (WAS) western Aphasia Battery , (PALPA)</p> <p>Psycholinguistic Assessment of language Processing in Aphasia , (ACTS) Auditory comprehension</p> <p>Test for Sentences , (ASHH-FACS) American Speech language-hearing Association functional</p> <p>assessment of communication skills for adults,</p> <p>(CETI) Communicative Effectiveness Index, (FCP) Functional Communication Profiles, (PICA)</p> <p>Porch index of communicative</p>

		Ability, (PP) Prtagmatic Protocol, (TOPA) Test of phonological Awareness, (TT) Token Test. ELA – Every day Activiter of living
4	Electro-nystagmograph PC based Hardware Kit with following details	<p>Castors having locking arrangement, Pullout keyboard shelf. Shelf for PC and Printer Hardware Interface Cart, Accessories, Computerized Light Bar, Patient safety through optical isolation. Computer controlled folding light Bar.</p> <p>Electro-nystagmograph PC based Software Kit with following details: Internal Loop-Back Test to check system integrity Notch filter and data validation. Portable Compact size.</p> <p>Electrodes: Type: Ag/Ag CI Disc Electrodes ENG Cart: Two tier heavy duty cart made of pre-laminated 18 mm thick board with: Standard Kit: Acquisition Box, Patient Connector, Accessories: Electrodes, Manual, Cables and Connectors, Recording paste, Dust cover</p> <ul style="list-style-type: none"> · Acquisition software on CD · Analysis software on CD · The ENG Tests: Saccades, Gaze, Pursuit, Positional, Dix Hallpike, Caloric & Optokinetic · User definable test sequence · Automatic calculation of Culmination Frequency with manual override · Automatic plotting of butterfly charts · Auto calculation of Slow Phase Velocity (SPY)
5	Upper GI Endoscope	<p>1-A Should have the following features & specifications : Slimmer/light weight and fully immersible Two / Single light guide / processor connector remote switches on control body. Silicon free Air/water and suction valve buttons. Field of view : 120 degree or more. Depth of field : 9.8 mm or less. Distal end & ins. Tube dia. Channel dia : 2.8 mm or more. Bending range : Up – 210 deg Dn–90deg L&R –100 DEG. Working length : 1010 mm or more</p> <hr/> <p>1-B R.G.B. O/P processor and light source :</p>

		<p>Should have the following features and specifications : Processor / light source unit :Integrated or separate units with Xenon or halogen. Processing : Digital signal processing. Image display size/s : Full or small screen display on monitor. Video out puts : RGB out put essential for compatible with RGB monitors.</p> <p>Edge enhancement : three steps. Light control system :Automatic and manual control. Cooling system :Forced air cooling. Iris control, white balancing, “ON SCREEN “ colour control (10-14 incr. Steps).</p> <p>Spare lamp facility with Quick changeover system from Lamp 1 to Lamp 2 and vice versa. Compact & light weight. 1-C. Monitor : 14” RGB (Medical grade).</p>
		<p>2 COMPUTER: Pentium – 4 with multimedia, CD writer & Drive, scroll mouse, 30 GB HD or more</p> <p>Special software for recording endoscopic procedures, 15 inches colour monitor, photo-quality inkjet printer, UPS(30 minutes for more back up).</p>
		<p>3 ESOPHAGEAL DILATORS : Over the guide wire, boogie, length 70 cm or more, in increasing diameter</p> <p>5 mm to 18 mm, tapering end, with radio-opaque markers, compatible with coated and steel guide wires.</p>
		<p>4 SPRING TIPPED STEEL GUIDE WIRE , 0.38 ESOPHAGEAL ZEBRA OR SIMILAR GUIDE WIRES.</p>
		<p>5 FOREIGN BODY FORCEPS: Compatible with standard 2.8 mm channels upper GI endoscope</p>
		<p>6 POLYPECTOMY SNARE WITH CONNECTING CORD : Re-usable, compatible with 22mm working channel</p>
		<p>7 BOYLE’S APPARATUS WITH PULSE OXIMETER (JUSTIFICATION: FOR DOING ENDOSCOPIES IN PEDIATRIC PATIENTS,UNCOOPERATIVE PATIENTS AND SERIOUS PATIENTS PROPER</p>
6	Colonoscope RGB O/P processor and light source CD Rom /Writer	<p>Slimmer / light weight and fully immersible</p> <p>3-4 remote switches on control body</p> <p>Graduated stiffness for better operational control</p> <p>Field of view wide 145 degree or more</p> <p>Depth of field : 3 mm to 100 mm or better</p> <p>Distal end diameter : 13.3 mm or less</p>

		Insertion tube diameter : 13.0 mm or less
		Channel diameter : 3.7 mm or more
		Bending range : up & Dn - 180 degree I & R -160 degree
		Working length : 1675 mm or more
		Processor / light source unit : integrated or separate unit with xenon or halogen lamp
		Processing : Digital signal processing
		Image display size : Full and small screen display
		Video output : RGB and composite with simultaneous display
		Edge enhancement : 3 steps mode
		Light control system : Automatic and manual control both
		Colling system : Forced air cooling
		Spare Lamp : Halogen 150 watts
		Iris control , white balancing on screen colour control with 12 or more incremental steps
		*We already have this processor and light source in department)
		COLOUR MONITOR
		Compatible high resolution ICL colour monitor , 14 inches with RGB, external sync (Video input)
		Computer specification
		PIV
		Con /Game port
		On PCI slot free
		2576 MB RM 40 GM
		MS office
		Window XP
		1024 x 768 - 14 inch monitor
7	Video ERCP Scope	<p>ERCP Scope with Processor and other accessories (Video ERCP (Side Viewing) Scope) :</p> <ul style="list-style-type: none"> • Dual (separate) inlet ports for better air and water transmission. • Compatible with leak testing device with auto regulated air flow and pressure. • Four or more no of use programmable remote control switches on control body. <p>Field of View : 100 degree or more Direction of View : 5 degree backward oblique viewing Depth of field : 5 to 60 mm or better Distal end out diameter : 13.5 mm or less Insertion tube outer diameter : 12.5 mm or less Tip bending range : Up 120⁰, down &</p>

		<p style="text-align: right;">left 90⁰, right 110⁰</p> <p>Working length : 1240 mm or more</p> <p>Channel inner diameter : 4.2 mm or more</p> <p>I-B : Light source & Video processor : Should have following features and specification :</p> <p>XENON Light source 300 W or more with spare lamp facility (halogen light), capable of generating special band of light (narrow band imaging / FICE / I-Scan) helpful for minute mucosal diagnosis.</p> <p>Automatic IRIS control, picture displays with image size adjustment (3-4 different size of image display),</p> <p>electronic zoom upto 1.5 x or more. Automatic brightness control, Forced air cooling, white balancing, on screen color control, Compact and light weight, Medical grade 14" monitor (RGB) video output RGB output for compatible with RGB monitor.</p> <p>1-C Computer : Window 7 with multimedia DVD writer and Drive, Scroll Mouse, 500 GB HDD or more, special software for recording endoscopic procedures, 15" colour monitor, Photo quality inkjet printer, UPS with 1 hour back up.</p>
8	Haemodialysis machine	<p>Computerized Screen</p> <p>2. On Line Treatment Chart</p> <p>3. Auto Self Test</p> <p>4. Acetate & Bicarbonate Dialysis System</p> <p>5. Chemical Disinfection with auto-shut off</p> <p>6. Auto-shut Off Heat Dis-infection</p> <p>7. Sodium, Bicarbonate and U.F. Profiling1</p> <p>8. Single Needle Double Clamp</p> <p>9. Variable Dialysate Flow</p> <p>10. Blood Leak Detector</p> <p>11. Integrated Blood Pressure Monitor</p> <p>12. Volumetric U.F Control</p> <p>13. Blood Pump</p> <p>14. Heparine Pump</p> <p>15 Arterial & venous Pressur Monitoring with Auto Limit setting</p> <p>16. Auto Start features</p> <p>17. Variable Sodium Bicarbonate Control System</p> <p>18. Automatic Drip Chamber Level Adjust</p> <p>19. Inbuilt Dialyser Holder</p> <p>20. Heat Exchanger</p>
9	Ro plant	<p>Sodium hypochlorite Dosing Through Electronic Dosing Pump</p> <p>Raw Water Storage Tank 5000 Lts , Loft Tank 500 Lts (Plastic)</p> <p>Raw Water Feed Pump Monoblock Horizontal</p> <p>(a) Capacity 1000Lts /Hrs</p> <p>(b) Head 35 MVC</p>

		<p>Multi Grade Sand Filter</p> <p>(a) Size of Vessels – 185 Dia X 944 Hrs</p> <p>(b) Graded Sand Quantity 50 Kgs</p> <p>Activated Carbon Filter</p> <p>(a) Size of Vessels – 185 Dia X 944 Hrs</p> <p>(b) Activated Carbon Media – 800-900 mg/gm</p> <p>(c) Body of Vessels – Fiber Reinforced Plastic</p> <p>Auto Scaled Dosing System Through Electronic Dosing Pump</p> <p>Micron Cartridge Filter 20 – Poly Propylene PTI ,USA</p> <p>Hydropneumatic System – Pressure Tank Flexcon USA</p> <p>RO Feed Pump Grund FOS (Den Mark) Stainless Steel Body with 3 phase electric connection</p> <p>R.O System should be completely skid mounted</p> <p>RO Module with programmable logic control operation</p> <p>(a) R.O Capacity 200ltrs / Hrs permeate</p> <p>(b) Recovery 40%</p> <p>(c) Hydronautics USA membrane Size 4” Dia, 40” long</p> <p>Control Panel</p> <p>(a) Pressure Gauges – Glycerin Filled – 02 nos</p> <p>(b) Rota Meters – 03 nos</p> <p>(c) Digital Conductivity Meter – Two- One For Inlet Water and Second for outlet Water</p> <p>(d) Pressure Switches – Two</p> <p>Hydropneumatic System with One feed pump and pressure tank</p> <p>Interconnecting Pipe work (ISIMarked) from Raw Tank to RO system and from outlet of RO to treated water tank</p>
<p>10</p>	<p>ECHO machine</p>	<p>1. System should be a fully digital colour Doppler echocardiography system.</p> <p>2. System should use digital beamformer technology , capable of Doppler gating future techniques , should be upgradable through software and hardware .</p> <p>3. system should have multi array probe technology for phased array, linear array, curved array and multiplane TEE Transducer,</p> <p>4. System should have high resolution wide field view, flat 15” LCD Screen</p> <p>5. Should have capability user to adjust screen, key board height and rotate for increased operator comfort.</p> <p>6. The system should be capable of providing the following imaging and operating modes</p> <p>a. Sector, Linear, Convex, TEE-imaging.</p> <p>b. 2D, M-Mode colour M-Mode.</p> <p>c. Colour flow Doppler imaging.</p> <p>d. Ultrasound/colour angio mode.</p> <p>e. Fully steerable pulsed Doppler.</p> <p>f. Fully Steerable continuous wave Doppler.</p> <p>g. Digital cine replay of all imaging & Doppler Modalities.</p> <p>h. On Screen cine Doppler & image recall, with large memory</p>

		<p>HHD.</p> <ul style="list-style-type: none"> i. Digital Image storage and patient archive with true scanner frame rates. j. Tissue Doppler imaging tissue colour Doppler coding. k. Full Measurement and Analysis capabilities. <ul style="list-style-type: none"> 1. Imaging Frequencies from 1.5MHz to 10.0 MHz. m. Reviews of stored ultrasound images. n. User adjustable color gain setting colour Doppler Angle Correction & other important parameters with live/frozen/archived images/loops 7. Software driven backlit & illuminated digital touch panel assignable rotary knobs & keys for easy mode & setting changes. 8. System integrated key board for easy patient data annotations & report entries. 9. Should have a Display of single dual or Quad images side by side. 10. System should have a programmable architecture data processing of phase amplitude & frequency. 11. Images should be stored & analysed with true frame rates, Extensive post processing remeasurement analysis generation of new reports, CD/DVD & USB flash card drive should be available. 12. Should have a digital stress echo package of acquiring & display of images. <ul style="list-style-type: none"> o. Both pharmacological & Exercise stress exam capabilities. p. Possibility to modify & create protocol templates. q. Image Acquisition review wall motion abnormalities & its reporting. <ul style="list-style-type: none"> 1. Digital Sign Replay, allowing to store & Replay ultrasound images including 2D, colour, Colour angio, 126oppler. The cine replay should allow to user to change gain contrast sweep speed, base line etc. Image parameters.
11	Pulse oximeter with nibp:	<p>A portable and light weight NIBP/Spo2 monitor with plethysmographic waveform display.</p> <p>Features include:</p> <ul style="list-style-type: none"> <input type="checkbox"/> High resolution graphic LCD with backlit with a plethysmographic display <p>Display of plethysmograph with numerics of %O2, Pulse Rate, Systolic, Diastolic & Mean BP</p> <ul style="list-style-type: none"> <input type="checkbox"/> Easy menu driven operation <input type="checkbox"/> Programmable audiovisual alarms <p>Trend – 24 hour SPO2 / 100 NIBP readings</p> <p>Mains and battery operated</p> <p>Specifications</p> <p>Electrical:</p> <p>Power supply: 230V AC / 50Hz</p> <p>Power Consumption: 3 W</p>

		<p>Inbuilt battery: NimH 7.2V / 1600 mAH</p> <p>Operating time: >3 Hrs</p> <p>Spo2(NELLCOR):</p> <p>SpO2 range: 40 -100%</p> <p>SpO2 accuracy: $\pm 2\%$ for 70-100 / $\pm 3\%$ for 40 -69</p> <p>Pulse Rate range: 30 -240 BPM</p> <p>Pulse Rate accuracy: ± 2 BPM</p> <p>Messages: Pulse Search</p> <p style="padding-left: 20px;">Check sensor</p> <p style="padding-left: 20px;">No Finger in probe</p> <p style="padding-left: 20px;">Low battery</p> <p>Alarms SpO2: High / Low 40 – 100%</p> <p>Alarm Pulse Rate: High / Low 30 – 240 BPM</p> <p>NIBP:</p> <p>Technique used: Oscillometric measurement</p> <p>Operation modes: Auto/Stat/Manual</p> <p>Patient type: Adult/Pediatric/Infant/Neonate</p> <p>Cuff pressure display: 0 – 300 mmHg</p> <p>Systolic BP range: 30 – 245 mmHg</p> <p>Diastolic BP range: 25 – 195 mmHg</p> <p>Mean BP range: 50 – 215 mmHg</p> <p>NIBP accuracy: +/- 3 mmHg</p> <p>Cuff deflation: Automatic</p> <p>Physical:</p> <p>Weight: < 2 kgs</p> <p>Dimensions: 198(L) * 132(W) * 178(H)</p> <p>Display type: High resolution Liquid Crystal Display</p>
12	Tread mill Stress test Data acquisition unit	<p>Treadmill should be operating automatically with the help of computer.</p> <p>Treadmill interface to the computer should be RS 232.</p> <p>Treadmill should operate on mains 230V 50Hz 12 Amp.</p> <p><input type="checkbox"/> Tread mill should operate on 15^o C to 48^o C & Humidity should be 30 – 90 %.</p> <p>Treadmill walking area should be at least Width 500mm, length 1400 mm.</p> <p>Treadmill speed control should be - Variable 1.7 to 16 Miles/Hr.</p> <p>Treadmill elevation control should be – variable 0 to 22%.</p> <p>Treadmill should take patient load up to 150 kgs.</p> <p>Tread mill should work on AC drives.</p> <p>Tread mill should immediately stop with the help of emergency switch.</p> <p><input type="checkbox"/> Data acquisition unit consist of battery operated wireless transmitter</p> <p><input type="checkbox"/> Data acquisition unit should be very small, less than 150 g</p> <p><input type="checkbox"/> Data acquisition unit should acquire all 12 lead simultaneously & real time.</p> <p><input type="checkbox"/> Transmitter should amplify & digitizes the ECG signal with out noise.</p> <p><input type="checkbox"/> Receiver unit should be USB powered & compatible with USB port.</p>

	Sampling Rate should be 500 samples per sec per channel.	
	Signal frequency response should be 0.05 Hz to 100 Hz.	
	<input type="checkbox"/> Data acquisition unit should have built in defibrillation and high frequency protect	
	No of electrodes should be 10 Nos.	
	Patient Leakage current should be less than 10 micro Amps.	
	Required Teflon coated light weight button type patient cable.	
	Unit should work on rechargeable.	
	Require battery charging indicator.	
	Unit should work 10 to 12 Hr on fully charge battery.	
	Communication distance minimum 4Meters in single room	
	Required Trans receive Indicator	
	Software	
	Facility to work software on Microsoft Windows platform.	
	Facility to view 12 lead simultaneous, real-time raw ECG.	
	Facility to View online 12 Lead running raw ECG & current 12 lead avg. complex with online automatic calculation of ST level, ST slope, & also to view automatic display of zoom lead with max ST depression in single screen.	
	Facility to view on line zoom lead resting ECG complex is super imposed by current ECG, complex with on line dynamic repositioning of all calipers like isoelectric, J In & ST point.	
	Facility to view on line, HR, bar graph for HR, % HR achieved, Target HR & 85% of Target HR.	
	Facility to view on line display of Name of protocol, Stage, TM Grade, TM speed, current stage time, total test time & B.P Systolic /diastolic & BMI.	
	Facility to give trial to the patient before starting the exercise. (warm up stage)	
	Facility to hold & release the stage at any point of time during exercise.	
	Facility to relearn 12 lead AVG ECG complex during the test.	
	Facility to view & print online METS.	
	Facility to view on line Running lead display of 12 X 1 & 6 X 2 raw ECG with bar graph of ST level for all 12 lead	
	Facility to use muscle tremor filter, Base line filter, Hum filter, for smooth ECG waveform.	
	Facility to change ECG Gain 5mm/mv, 10mm/mv, & 20mm/mv	
	Facility to selectable any lead as a rhythm lead.	

		Facility to store 100 no. Patient data	
		Facility to store beat to beat data of whole test in the form of Raw ECG & Median ECG	
		Facility to use automatic Re run of whole test.	
		Facility to use automatic Re analysis of whole test.	
		Facility to select standard protocol like Bruce, Modified Bruce, Modified Balke Naughton , User's define protocol & protocol builder.	
		It should print on A4 size paper, with or without grid, only Landscape format.	
		Facility to print on DeskJet as well as laser jet printer	
		Facility to take automatic printout, on line as well as off line of Raw, median ECG & Mix ECG report.	
		Facility to print full report with single button.	
		Facility to print & view online 12 lead Raw ECG as well as median ECG of any instant of test.	
		Facility to print & view Avg.ECG comparison report – compare with supine stage minute wise, stage wise.	
		<input type="checkbox"/> Facility to print & view of summary report & Tabular summary of ST measurements.	
		<input type="checkbox"/> Facility to print & view of trend report, with trend of BP, TM Grade, speed, RPP, METS, & ST level ST slope of all 12 lead in one page.	
		Facility to print & view full discloser report (compress) ECG of whole test.	
13	PC based ECG Machine	<u>12 channel pc based ecg m/c</u>	
		12 lead simultaneous acquisition	
		Digital filters and baseline control	
		Configurable printing format	
		Automatic measurements of axis, amplitude & intervals	
		Unlimited data storage, review & printing	
		Long term monitoring mode	
		Adjustable sweep speed & gain	
		Facility to store and print immediate & offline comments	
		Selectable Rhythm lead	
		Automatic Heart Rate calculation	
14	Mentamove (R)	Brain efficiency training	
		Technical specifications	
		EMG sensitivity: <2 V	
		Offset value: 2-2000 V	

		<p>EMG reading: Logarithmic, 5 segments histogram</p> <p>Impedance: 0.1-20k (EMG)</p> <p>Output signal: 0-40mA, +/-0.1mA at 2.5k</p> <p>0.66 mA / unit intensity, no part of direct current</p> <p>Duration of the impulse: 320 s, +/-5%</p> <p>Type of current: Amplitude modulated medium frequency</p> <p>Carrier frequency: 3115 Hz</p> <p>Modulation frequency: 33Hz</p> <p>Cycle duration of the stimulus: 30ms</p> <p>Duration of the stimulation : 2-60s</p> <p>Duration of the break: 2-60s</p> <p>Rise time: 2s</p> <p>Correction factor : 2-20% (automatic offset adjustment)</p> <p>Wave form: Sine wave biphasic, amplitude modulated</p> <p>Micro processor : Two Micro processors with modern technology</p> <p>Data Storage: 8 Patients X 100 sessions</p> <p>Display: LCD Display</p> <p>Dimensions : 231x99x55 mm</p> <p>Weight: 500g (including batteries)</p> <p>Batteries : 4x1.2 V, rechargeable NIMH</p> <p>Voltage : 4 Volt DC</p> <p>Classification : Type BF, internal power supply ,Class Iia;</p> <p>Continuous operation, protection against lubrication</p> <p>Electrode wire : Fixed at the instrument , three pole</p> <p>External charger : Protection class II, current consumption 230 V</p> <p>50 Hz/26 mA/6VA</p> <p>PN: Z910H0004215</p>
	Pulse oxymeter	Under R/c hence deleted
	Oxygen Concentrator	Under process of R/c hence deleted
	Nebuliser	Under process of R/c hence deleted
15	Bilevel CPAP Ventilator	<ul style="list-style-type: none"> • Ventilation Modes : Spontaneous/ Spontaneous-Time/ CPAP • IPAP : 4 to 20/25/33 CmH₂O • EPAP : 4 to 15/20/25 CmH₂O • Leak detection & Power failure alarm

		<ul style="list-style-type: none"> • Rise Time Range : 100 to 600 MS adjustable • Power Supply : 110 VAC to 240 VAC • Frequency Setting : 5 to 50 BPM • APNEA Backup
16	3D Echo Cardiography and Color Doppler system	Should have various scanning methods: <ul style="list-style-type: none"> (a) Electronic Linear (b) Electronic Convex (c) Phased Array Sector <ul style="list-style-type: none"> • Mechanical/annular Array upgradeable
		The unit should be fully digital with at least 256 processing channels and DICOM
		15” High Resolution LCD Monitor with Flexible Support Arm.
		The unit should have Pulse Wave Doppler. Comeliness ware Doppler
		At least 3 active transducer ports and transducer holder.
		All probes should be of Super High Density (for SHD scanning) & WITH DIGIT Boosters.
		Minimum 3 electronic switch able independent B-mode frequently selection show with all probes, All probes should be of Ultra Broad Band Technology.
		The unit must have Tissue Harmonic Imaging as a standard package with 2 switch independent THI frequencies with Convex Probe only.
		Very High System Dynamic Range- upto 170dB or more should be available.
		Frame Rate should be 300 or more frames per second (fps)
		The unit should have simultaneous real time triples mode facility (b-mode/Color tracings).
		Viewing of Dual Color Images (B/Color & B/Color) together should be possible land post Freeze modes.
		Simultaneous B+BDF (B/Color & B/W simultaneous) split screen Real Time impossible.
		2-3 Port should be available (upto 2 ports for Computer interface and Data Trans
		Pre and Post Freeze ROI Digital Pan/Zoom upto 12x times should be available (t zoom) along with scrolling in all directions should be possible.
		The unit must have cine loop facility for black & white and color images.
		The unit should have B- mode Linear Image Steering.
		Color Box Liner Steering should be available in all Color modes- Upto +/-30deg
		Digital Motion Artifact Eliminator should be available.
		Minimum detectable flow velocity should be upto 0.6cm/sec.
CD/DVD Drive-Built in with the system for storing of images.		
Dual Hard Disk Storage facility- Built in with the system- each HDD at least 80		
USB ports for providing Data Transfer, Image/Data printer connectivity.		
Automatic adjustment of Color Scale and Doppler range should be available in r with baseline shift.		

		Memory stick/pen drive facility for storing and recalling of B/W and Color Doppler images	
		Workflow Editor for Carrying out routine exams by executing freely programmable protocols simply with the touch of a button. It also combines multiple operations in to single Keystroke	
		Thumbnail view of images stored in the HDD simultaneously while scanning should be	
17	Graphic Waveform	Pressure-Time curve/flow-time curve/volume-time curve Pressure-Volume loop curve/flow-volume loop curve	
		Alarm	
		High pressure	5-120cm H2O
		Low pressure	0-50cmH2O
		High tidal volume	20-2500ml, Off
		Low tidal volume	0-2500ml
		Low minute volume	0-30lpm
		High respiration rate	20bpm ~120bpm
		Apnea	Off, 10-60 sec
		Power loss	AC/DC power loss
		Low Wall air/O2 pressure	Below 35 psi pressure
		Fio2	21-100%
		Obnstructed tube	+8ipm
		Airway leak	-8ipm
		Vent in –operation	
		Alarm on/Off: all parameters on/off selective independently	
		Power supply inputs	
		100-230 VAC. 50/60 Hz (free voltage)	
		12 VDC 7A External power input	
		12VDC 7A internal battery operting 120 minutes depends on the ventilation conditions	
		Power Consumption: 84 w(main unit Only)	
		Dimesion/Weight	
		Main unit	36-35.25 ~50, 40-50 cm
		Display monitor	31-35,28-30 cm
		Cart	48-50/57-60/ 77-80 cm
		Connectors	
		Aspiratory limb connector: ISO22mm conical male Expiratory limb connector: ISO 22mm conical male Air and Oxygen inlets: DISS male/female	
Environmental			
Operating temperature	10-40°C (50-104T)		

		Storage temperature	-10-70°C(14~158°F)
		Relative humidity	10-85% (storage)
		Pneumatic Gas supply	
		Oxygen/Air Intel supply Pressure	2.56-7.3kg/cm3 /2.4-6.9bar/35-90psl
		Pneumatic Gas supply	
		Cart /Trolley	
		Exhalation	
		Reusable adult patient circuiif	
		Patient circuit support arm	
		Test lung	
		Air compressor	
		Humidifier with chamber	
18	Body plethysmog raph system with diffusion study	<p>5. Fully automatic computerized unit for the</p> <p>6. measurement of following parameters:</p> <ul style="list-style-type: none"> 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, <p>Should Meet Criteria for ATS Standards.</p> <p>Automatic DTPS correction.</p> <p>Should meet all International Safety Standards.</p> <p>Should have predicted equations.</p> <p>2. Body Plethysmograph System with Box (size > 900L or more) to provide sufficient space to patient, With Visibility from all directions.</p> <p>3. Intercom System to be provided for Communication with patient while sitting inside the Box.</p> <p>4. Should be supplied with PFT Software Window XP based.</p> <p>5. Manufacturer should have a local office with complete technical backup capability (preferably)</p>	
19	Polysomno graphy System For Sleep Disorders Study	<p>Polysomnography system that records and displays physiological parameters. Should have following Channels:-</p> <ul style="list-style-type: none"> o EEG o ECG o SpO2 o Snoring detection 	

		<ul style="list-style-type: none"> 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)
	Suction Machine	Under process of R/c hence deleted
20	Steel Cot	Steel cot drawing code NO. 2K9-E-30 Size : 1910 x 1880 x 950 x 450
	Nebulizer	Under process of R/c hence deleted
21	Upper GI Endoscope (Video)	<p>1-A : Should have following features and specifications :</p> <p>Field of View : 140 degree or more</p> <p>Direction of View : 0 degree forwarding viewing</p> <p>Depth end outer diameter : 9.8 mm or less</p> <p>Insertion tube outer diameter : 9.8 mm or less</p> <p>Tip bending range : Up 210⁰, Down 90⁰, left & right 100⁰</p> <p>Working length : 1030 mm or more</p> <p>Channel inner diameter : 2.8 mm or more</p> <p>Minimum visible distance of Instrument used thru channel : 3 mm or closer from distal end.</p> <p>Slimmer / light weight and fully immersible in disinfectant solution and compatible with leak testing</p> <p>device with auto regulated air flow and pressure two light guide, 4 or more no of remote control switches on control body. Silicon free Air / water and suction valve buttons with separate inlet ports for better air and water transmission. Instrument should be computable with narrow band imaging / FICE / I-Scan and other high advance high definition technology.</p> <hr/> <p>1-B : Light Source & Video Processor : Should have following features. XENON light source 300 W or more with spare lamp</p>

		<p>facility (halogen light), capable of generating special band of light (narrow band imaging / FICE / I-Scan) helpful for minute mucosal diagnosis.</p> <p>Automatic IRIS control, picture displays with image size adjustment (3-4 different size of image display), electronic zoom upto 1.5 x or more. Automatic brightness control, force air cooling, white balancing. On screen color control, compact and light weight, medical (high definition) grade 14" monitor (RGB), Video output : RGB output for compatible with RGB monitor.</p>
		<p>1-C Computer : Window 7 with multimedia DVD writer and Drive, Scroll Mouse, 500 GB HDD or more, special software for recording endoscopic procedures, 15" colour monitor, Photo quality inkjet printer, UPS with 1 hour back up.</p>
		<p>1-D ; Trolley for all above instrument</p>
22	Video Colonoscope	<p>Colonoscope (Video) :</p> <p>Slimmer / light weight and fully immersible.</p> <p>4 or more remote switches on control body.</p> <p>Graduated stiffness for better operational control.</p> <p>Field of view wide 140 degree or more.</p> <p>Depth of field : 3 mm to 100 mm or better.</p> <p>Distal end diameter : 13.2 mm or less.</p> <p>Channel diameter : 3.7 mm or more.</p> <p>Bending range : up and down - 180 degree I & R - 160 degree.</p> <p>Working length : 1675 mm or above.</p> <p>Instrument should be compatible with band imaging.</p> <p>I-B : Light source and video processor : &</p> <p>I-C : Computer : Not needed because this machine can be operated with light source and processor of UGI scope.</p>
	Video ERCP Scope	<p>Same as item no.8 hence deleted</p>
23	Capsule endoscopy system (One complete unit)	<p>Workstation Set R6 Includes :</p> <ol style="list-style-type: none"> 1. Workstation – <ul style="list-style-type: none"> LG 20" flat screen monitor Canan pixma IP3500 Printer Rapid 6 SP Software Kit Diskonkey 12 GB Patient Preparation Pad 2. Data Recorder 2C Kit <ul style="list-style-type: none"> Belt Support belt

		<p>Extension belt Data recorder cradle Data recorder with Li-ion battery Sensor array 8 lead Sensor array 3 lead Data recorder batter charger</p>
		<p>Measuring tape 1 Allocation kit 1</p>
		<p>3. Accessories Pack</p> <p>Key Board 1 Mouse 1 Power cable 4 Connection cable 1</p>
24	Endoscope ultrasound system (One complete unit with radial and lineal probe)	<p>Broad based technical specification for gastroendosonography system includes :</p> <p>Ultrasonic gastrovideoscope (Radial)</p> <p>ii) Ultrasonic gastrovideoscope (Linear)</p> <p>iii) Ultrasound processor with color 136oppler function</p> <p>iv) Video processor module</p> <p>v) 300 watt xenon light source</p> <p>vi) High resolution monitor</p> <p>Specifications:</p> <p>Ultrasonic gastrovideoscope (Radial) :Should have following features :</p> <p>360 degree electronic radial scanning and facility for image rotation</p> <p>EUS images with four or more selectable frequencies (5/6/7.5/10 MHz)</p> <p>Color and power doppler for effective confirmation of blood flow</p> <p>Lens cleaning function for keeping the endoscopic field of view clear at all times.</p> <p>Field of view should be around 100-120 degree.</p> <p>Direction of view should be 50-60 degree forward-oblique.</p> <p>Depth of field should be 3 to 100 mm or less.</p> <p>Insertion tube outer diameter should be around 11-12 mm. distal end should have short rigid portion for less trauma to the patient.</p> <p>Instrument channel diameter should be around 2-3 mm.</p> <p>EUS scope should be fully immiscible for through cleaning.</p> <p>Ultrasonic Gastrovideoscope (Linear) : Should have following features :</p> <p>Should have 180 degree electrical curved linear scanning.</p> <p>Should have EUS images with four or more frequencies (5/6/7.5/10 MHz)</p> <p>Should have color and power doppler for effective confirmation of blood flow.</p>

		<p>Field of view should be around 100-120 degree. Direction of view should be 50-60 degree forward-oblique or forward viewing. Depth of field should be 3 to 100 mm or less. Insertion tube outer diameter should be around 11-12 mm. distal end should have short rigid portion for less trauma to the patient. Instrument channel diameter should be around 2-3 mm. EUS scope should be fully immiscible for through cleaning. Preferable if a cable to EUS processor is detachable for easier carrying purpose. Better to have compatibility of special light function such as</p>
		<p>Ultrasonic Gastrovideoscope (Linear) : Should have following features : Should have 180 degree electrical curved linear scanning. Should have EUS images with four or more frequencies (5/6/7.5/10 MHz) Should have color and power doppler for effective confirmation of blood flow. Field of view should be around 100-120 degree. Direction of view should be 50-60 degree forward-oblique or forward viewing. Depth of field should be 3 to 100 mm or less. Insertion tube outer diameter should be around 11-12 mm. distal end should have short rigid portion for less trauma to the patient. Instrument channel diameter should be around 2-3 mm. EUS scope should be fully immiscible for through cleaning. Preferable if a cable to EUS processor is detachable for easier carrying purpose. Better to have compatibility of special light function such as NBI, FICE and i-scan.</p>
		<p>Ultrasonic cable : Should have compatibility with the linear scope quoted here. Ultrasound Processor with Color doppler function : Compact & easily transportable unit with ultrasound & color doppler function. Compatible with electronic scanning and preferably mechanical probes. 3D imaging option for radial scanning probes. Preferable Generated frequency range : upto 30 Mhz or more. Touch screen, dedicated and user friendly key board. Cine Memory : 120 frames or more Possibility to retrieve images thru USB port to record. AGC, GAIN, STC functions.</p> <p>Video processor module : Should have following technical specifications / features. Portable and light weight. Capable of storage patient data. Capable of registering & recalling scope information like register the number of procedures before preventive maintenance is required service contract. Information warranty date information etc. Zoom capability for images and sharpness control. Edge and structure enhancement facility.</p>

	<p>Separate unit for light source will be preferred.</p> <p>Should be equipped with HDTV imaging capability for observing of capillaries, mucosal structures and other patterns.</p> <p>Special light (Narrow Band Imaging / FICE / I-scan) capability to enhance the visibility of capillaries and other structures on the mucosal surface.</p> <p>should have HD / SD/SDI output for high quality video image transfer.</p>
	<p>Should have convenient digital to digital recording facility for both still and moving images.</p> <p>Should have PIP (picture-in-picture) display for any combination of endoscopic images, fluoroscopic images, ultrasound images etc.</p> <p>300 Watt Xenon Light source : Should have following technical specifications / features :</p> <p>Portable and light weight.</p> <p>Lamp-Xenon short arc lamp ozone free 300 W or more.</p> <p>Emergency halogen lamp as backup, which should automatically ignite, in case the main lamp gets defective.</p> <p>Capability of Narrow Band Light / FICE / i-scan.</p> <p>Function of automatic switch off when unit has been used for an extended period of time.</p> <p>High Resolution Monitor :</p> <p>19"- 26" High resolution LCD color monitor, HD compatible.</p>

Schedule-4:

Technical Specification for Pulmonary Medicine 06

S. N	NAME OF EQUIPMENT	SPECIFICATION	TOTAL
	CPAP	Under process of R/c hence deleted	4
	Bilevel ventilator	Same as item no.16 of schedule 4 hence deleted	9
1	Desktop Spirometer	<ol style="list-style-type: none"> 1. Light weight, easy to use, PFT data acquisition and processing 2. Autoclavable pneumotach sensor, with no moving parts. 3. Inbuilt thermal printer, to print reports via internal printer or A4 sized reports via using PFT software. 4. Storage capacity for 10,000 patients 5. Facility for both offline testing and online testing through software. 6. Single breath tests & multi-breath testing. 7. Real time F/V and V/ t curves on screen during testing. 8. Measure selectable test parameters including VC, TV, IRV, ERV, FVC, FIVC, FEV1, FEV6, FEV1/VC, FEV1/FVC, FEV1/FEV6, FEF 25, FEF50, FEF75, FEF25-75, FIV1, PIF, FIVC, FET, MVVind, FEV1 ratio, PEF, Lung age and others with % predicted or standard deviation twice. 9. Customized reports with interpretation option, BMI and Lung age information. 	1

		<p>10. At least 8 hours of battery backup.</p> <p>11. Choice of child incentives with sound effect.</p> <p>12. Automatic BTPS correction facility.</p> <p>13. Carrying case.</p> <p>14. Measurements</p> <p>a. Max displayed volume - 10L, accuracy +/- 3%</p> <p>b. Max Flow rate - +/- 16 L/s Min flow rate +/- 0.02 L/s</p> <p>c. Flow resistance : <0.1 kPa /L/S @ 14 L/S</p> <p>d. Resolution 10 ml Vol & 0.01 L/S flow</p> <p>15. CE, ISO. FDA certified and as per 2005 ERS/ATS standard.</p>	
2	Video Bronchoscope Adult	<p>Video processor should have:</p> <ul style="list-style-type: none"> • Should have in built software • Should have in approx. 50 No. Patient data. • Should have one unit with light source • Colour system: single-CCD color • Lamp: XENON short ARC • Video output: 2RGS connectors/2Y/c connectors/1 composite video connector. • External device: 1 printer control connectors/2 external device control connectors. • Digital output: 1 serial connector • Weight: Not more than 15 kg • Monitor: 14 inch. LCD colour medical monitor. <p>Specification for video bronchoscope high resolution, Large image 2.0 mm working channel(Adult)</p> <ul style="list-style-type: none"> • Field of view: 120deg. • Depth of field: 3-50mm • Tip deflection up/down:180/130 deg. • Rigid distal diameter: 6.3mm • Insertion tube diameter: 6.2mm • Diameter of working channel: 2.8 mm • Insertion tube working length : 600 mm • Total length : 860 mm 	2
3	Video Bronchoscope Paediatric	<p>Video processor should have:</p> <ul style="list-style-type: none"> • Should have in built software • Should have in approx. 50 No. Patient data. • Should have one unit with light source • Colour system: single-CCD color • Lamp: XENON short ARC • Video output: 2RGS connectors/2Y/c connectors/1 composite video connector. • External device: 1 printer control connectors/2 external device control connectors. • Digital output: 1 serial connector • Weight: Not more than 15 kg • Monitor: 14 inch. LCD colour medical monitor. <p>Specification for video bronchoscope high resolution, Large image 2.0 mm working channel (Paediatric)</p> <ul style="list-style-type: none"> • Field of view: 120deg. • Depth of field: 3-50mm • Tip deflection up/down:210/130 deg. 	1

		<ul style="list-style-type: none"> • Rigid distal diameter: 5.5mm • Insertion tube diameter: 5.1mm • Diameter of working channel: 2.0 mm • Insertion tube working length : 600 mm • Total length : 860 mm 																					
4	Fibreoptic Bronchoscope	<table border="1"> <tr> <td rowspan="2">Optical System</td> <td>Field of view</td> <td>120°</td> </tr> <tr> <td>Depth of Field</td> <td>3-50mm</td> </tr> <tr> <td rowspan="3">Insertion Tube</td> <td>Distal End Outer diameter</td> <td>ø 6.1- 6.2mm</td> </tr> <tr> <td>Insertion Tube Outer Diameter</td> <td>ø 6.2mm</td> </tr> <tr> <td>Working Length</td> <td>550 – 600 mm</td> </tr> <tr> <td rowspan="2">Instrument Channel</td> <td>Channel Inner diameter</td> <td>ø 3.2mm</td> </tr> <tr> <td>Minimum Visible Distance</td> <td>5mm</td> </tr> <tr> <td>Bending Section</td> <td>Angulation Range</td> <td>180° UP 130° DOWN</td> </tr> </table>	Optical System	Field of view	120°	Depth of Field	3-50mm	Insertion Tube	Distal End Outer diameter	ø 6.1- 6.2mm	Insertion Tube Outer Diameter	ø 6.2mm	Working Length	550 – 600 mm	Instrument Channel	Channel Inner diameter	ø 3.2mm	Minimum Visible Distance	5mm	Bending Section	Angulation Range	180° UP 130° DOWN	1
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Bending Section	Angulation Range	180° UP 130° DOWN																					
5	PFT machine with facility for spirometry, lung volume & diffusion capacity.	<ol style="list-style-type: none"> 1. Features: <ol style="list-style-type: none"> a. Slow and forced spirometry (inspiratory and expiratory flow-volume loop) b. Lung Sub volumes. c. Airway Resistance by shutter method, d. Diffusion Single breath measurement with a specific gas concentration for DLCO and TLC by Helium Dilution method. 2. Parameters: <ol style="list-style-type: none"> a. Slow and forced spirometry: VT, BF, ERV, FVC, FEV1, VCin, VCex, MEF50, MEF25, MEF75, PEF, MVVetc. b. Lung sub volumes by Helium Dilution, Residual volume (RV), Total Lung capacity (TLC), RV/TLC etc. c. Diffusion SB – DLCO SB, DLCO VA, Crog factor, VA, Breath holding time, HB etc d. Rocc by shutter method for measurements of airways resistance. 3. DLCO SB must have – <ol style="list-style-type: none"> a. Program to train the patient to minimize the gas consumption & to avoid unwanted inhalation of gas during the training for the patient safety. b. Must have facility to adjust Discard volume & Occlusion time to optimize the proper results. 4. The system should have an easy to change, bidirectional heated Pneumotach with the following specification: <ol style="list-style-type: none"> a. Range = Should be 0 to 20 lit/sec b. Accuracy = Should be +/- 2% c. Resistance = should be less than 0.05 Kpa/lit/sec. at 10 l/sec. <p><u>Note</u> - Breathing Pneumotach assembly must be able to easily disinfected & reusable only.</p> 5. Calibration Programs: # System to meet ATS and ERS norms. <ol style="list-style-type: none"> a. Volume Calibration: Pneumotach based volume transducer, with min. 3ltrs. Calibration syringe pump. b. Gas Calibration – Automatic Gas Calibration technique. 	2																				

		<p>c. Ambient Calibration - Module for Ambient calibration, and automatic connection to BTPS</p> <p>6. Facility for entry of patient data and saving of this information in a database. System software should be based on MS-WINDOWS –Xp or above OS. It should be possible to configure different report output formats.</p> <p>7. The system should have ISO 9000 Quality Certification & US FDA approved.</p> <p>8. The computer system should have specification equivalent or more than as follows: Core 2 Duo Processor 2 GB RAM300 GB HDD, DVD ROM or writer Color Monitor & Printer etc.</p> <p>9. System should be complete with PC, TFT monitor, printer, suitable factory supplied trolley, gas cylinder for DLCO measurement 10 lit water cap, 500 pcs mouthpieces and filter.</p>	
	Arterial Blood gas machine	Under process of R/c hence deleted	
6	Rigid Bronchoscope	Rigid Bronchoscope Kit Universal Instrumentation Barrel and Anesthesia Connector (2 Pieces) Metallic Obturator Cap Metallic Obturator Cap for Telescope and Single Accessory Metallic Obturator Cap for Single Accessory Metallic Obturator Cap for Double Accessory Jet Venturi Fiber Light Deflector Bronchial and Tracheal Tubes 13.2/12.2 mm - 7/6.5 mm Bronchial Tube (Ventilating) Rigid Stent Placement Kit Stent Introducer Tube Yellow/Orange/Black/Red Stent Plunger Yellow/Orange/Black/Red Stent Loader Yellow/Orange/Black/Red Y-Stent Loader, Plunger and Metal Cover (3 pieces) Telescopes and Silicone Caps 4.0 mm Autoclavable Telescope 490 mm Length, 0° Direct Vision 5.5 mm Autoclavable Telescope 490 mm Length, 0° Direct Vision 5.5 mm Autoclavable Telescope 363 mm Length, 0° Direct Vision Telescopes should be compatible with all brands of light sources and cameras. Silicone Caps for 4-5.5 mm telescopes with instrument hole Standard FORCEPS Stent Measuring Forceps, 2.5 mm shaft diameter, 60 cm length Y-stent Forceps, 4.5 mm shaft diameter, 60 cm length Grasping Forceps with Crocodile Jaw, single action, 1.5 mm shaft diameter, 60 cm length Grasping Forceps with Crocodile Jaw, double action 1.5 mm shaft diameter, 60 cm length Atraumatic Dissecting Forceps, 1.5 mm shaft diameter, 60 cm length Cup Grasping Forceps, 1.5 mm shaft diameter, 60 cm length Grasping Forceps with Crocodile Jaw, single action 3 mm shaft diameter, 60 cm length Stent Cutting Forceps	1

	<p>ACCESSORIES</p> <p>Canula for Suction and Cleaning, 2.5 mm shaft diameter, 60 cm length, straight tip</p> <p>Disposable Suction Catheter, 2.8 mm shaft diameter, 60 cm length, straight tip</p> <p>Laser Fiber Guide 2.5 mm shaft diameter, 60 cm length, bent tip</p> <p>Knife Blade “Scythe”, 2.5 mm shaft diameter, 60 cm length</p> <p>Cup Forceps, double action, 60 cm length, 3.0 mm diameter</p> <p>Curved Grasper, 60 cm length, 3 mm shaft diameter</p> <p>Hook Scissors, 60 cm length, 3.0 mm shaft diameter</p> <p>Curved Scissors, 60 cm length, 3.0 mm shaft diameter</p> <p>Micro Scissors, 60 cm length, 3.0 mm shaft diameter</p> <p>Jumbo Grasper, 60 cm length, 5.0 mm shaft diameter (Ratchet Handle)10</p>	
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Schedule-5:

Technical Specification for Pediatrics 5

SNo	NAME OF EQUIPMENT	SPECIFICATION
	Phototherapy LED	Under R/c hence deleted
1	Phototherapy Unit (CFL)	<p>Wavelength :420 - 480nm</p> <p>Irradiance : > 18μW/cm²/nm at 40cm</p> <p>Effective surface area :500mm x 300mm</p> <p>LAMPS : 4 Blue CFLs and 2White CFLs.</p> <p>Height adjustability : 130cm - 180cm from floo</p> <p>Electrical supply :190 - 240 V, 50 - 60 Hz, 0.5A</p> <p>Power : 108W</p> <p>DIMENSIONS</p> <p>Approximate sizes are given below.</p> <p>Max. Height : 160cm</p> <p>Lamp Unit dimensions :48cm (L) x 41cm (W) x 9.5cm (H)</p> <p>Weight : 10-15kg</p>
	Neonatal ventilator	Same as item no.82 of schedule no.1 hence deleted
	Pediatric Ventilator	Under process of R/c hence deleted
	Bubble CPAP machine	Under process of R/c hence deleted
2	High frequency ventilator	<p>Ventilator should have the capability to ventilate both in Conventional, and High Frequency Oscillatory mode in neonates and babies up to 5 kg, for both types of ventilations.</p> <p>Conventional ventilation to have all modes viz. CPAP, CMV+TTV, PTV, PSV, SIMV+TTV+PSV.</p> <p>Should deliver Targeted tidal volume on each breath and measures the actual volume to proximal flow sensor.</p> <p>Built-in FiO₂ monitoring facility.</p> <p>Built-in Electronic blender.</p> <p>Should have both flow and Pressure trigger.</p>

		<p>Ventilator should have large touch screen (around 12 inch) user interface required for all ventilator functions.</p> <p>Colour Monitor should display Pulmonary Graphics & loops with in- built integral pulmonary graphics monitoring facility for monitoring (a) I: E ratio (b) Measured Ti (c) Measured Te (d) Tidal volume (e) Minute volume (f) ET tube leakage (g) Resistance (h) Compliance (i) Pressure flow & Volume waveforms with freezing facility for review (j) Flow / Pressure, Flow / volume, Volume / pressure loops.</p> <p>Should have adjustable apnea alarm with apnea support in all modes.</p> <p>Facility to switch over from Conventional to HFO and vice versa without stoppage of ventilator operation.</p> <p>Ventilator to use only one type of patient circuit both for conventional & HFO mode operation (Be it reusable or single use).</p> <p>Should display actual delta pressure percentage on continuous basis. HFO/CMV mode should be both in inspiration & expiration phase.</p> <p>Should display absolute Delta pressure values on real time basis in HFO mode.</p> <p>Should have in built rechargeable battery back up for 45-60 minutes operation; Battery life-10 years.</p> <p>One Re-usable patient Circuit and two disposable circuits to be supplied.</p> <p>- Please quote the prices of both types of Patient Circuits separately.</p> <p>It is essential to enclose Brochure /Catalogue of the firm supporting the specification claimed to be present in the equipment.</p>
	Pulse oximeter	Under R/c hence deleted
	Oxygen concentrator	Under process of R/c hence deleted
	Transcutaneous bilirubinometer	Under process of R/c hence deleted
3	Portable echo machine	<ol style="list-style-type: none"> 1. State of the art, fully digital, premium end latest live echo cardiography color doppler system for both adult and pediatric and neonatal patients including all basic and specialized cardiac and vascular applications. 2. Should be a portable, laptop size, light, high performance phased array echo system. Should weigh between 4.5 – 9 kgs (with battery) with 10 – 15” flat panel, high resolution LCD colour display. 3. System should have following display modes, covering all basic and specialized cardiac and vascular applications. <ol style="list-style-type: none"> a. M-mode should also have angular / anatomical M-mode (any axis M-mode) facility, with upto 3 M-mode omnidirectional cursors. M-mode should also show quantitative segmental wall motion scanning facility. b. 2D with facility for real time contrast studies. c. Colour doppler, pulse wave doppler, HPRF, fully steerable continuous wave doppler. d. Should have tissue harmonic imaging capability with quantification. e. Contrast harmonic imaging with quantification facility should be present. f. Should have advanced stress echo package with ECG gating with possibility of online as well as offline TDI and myocardial velocity with

		<p>protocol templates for WM scoring and reporting with segmental wall motion analysis software for quantification of endocardial segmental motion.</p> <p>g. Color coded tissue doppler must be available with quantification for myocardial thickness, strain and strain rate imaging with facility for real time and off line calculation of velocity of myocardial segments. Should preferably be displayed after intracardiac cycle in one single image.</p> <p>h. Power doppler for small flow should be available.</p> <p>4. Transducers should have broadband harmonics and compound array probes. System to be offered with phased array cardiac probes for adult, pediatric and neonatal probes and a linear probe for peripheral vascular studies along with TEE probes for adult and pediatrics applications.</p> <p>a. All probes should be multi frequency.</p> <p>b. 1.5-5 MHz electronic phased array for adult cardiac study.</p> <p>c. 3.75-7.5 MHz electronic phased array for neonatal / pediatric applications.</p> <p>d. 5-13 MHz electronic linear probe for vascular studies.</p> <p>e. Multifrequency multiplane adult transesophageal probe.</p> <p>f. Multifrequency multiplane pediatric transesophageal probe</p> <p>5. Should have Scanning depth of 30 cms or more.</p> <p>6. Should have minimum 3 active ports.</p> <p>7. Should have high frame rates of more than 500 FPS.</p> <p>8. Comprehensive measurement and analysis packages and report pages for all routine and advanced cardiac application.</p> <p>9. Cine loop memory of atleast 10,000 frame / 200 sec.</p> <p>10. 1000 patient data memory should be available.</p> <p>11. System should have algorithms to improve 2D image quality including optimization for spatial and temporal resolution.</p> <p>12. Atleast 60 GB onboard HDD for storage.</p> <p>13. Should have integrated hard disk for image storage / recall with complete image management and post analysis on stored images.</p> <p>14. Should have full Dicom support inbuilt, ready for connecting to remote server / laser camera.</p> <p>15. Able to transfer images and clips to CD & DVD as AVI files.</p> <p>16. Direct compatibility to attach inkjet / laserjet printer along with a CD-RW must be available.</p> <p>17. Should be quoted with B/W thermal printer with 100 rolls with facility for color print.</p> <p>18. Image management system with latest computer-Pentium-IV dual core, 120GB, HDD, DVD writer, CDR W and colour laser.</p> <p>19. Appropriate rated UPS with at least 30 minutes backup in addition to inbuilt battery back-up of 60 mins to be provided as accessory.</p>
4	Cerebral function monitor (Amplitude integrated EEG)	<p>1. Should be compact</p> <p>2. Continuous real time bedside monitoring of cerebral function in preterm and term babies</p> <p>3. At least 3 electrodes</p> <p>4. Real time and review modes</p> <p>5. CFM, impedance, and aEEG display</p> <p>6. Shows trends and transient events</p> <p>7. Onscreen indication/alarm for abnormal conditions (impedance, interference) or device malfunction</p> <p>8. Built in safeguard for interruption in power supply, self calibration</p>

		<p>check, and lead-off alarm</p> <p>9. Battery back up for 60 minutes</p> <p>10. Laser printer</p> <p>11. Source for removable storage devices</p> <p>12. 220-240 V (supplies continuous power for round the clock)</p> <p>13. Should have internal memory to store data for 20000 hrs of monitoring to maintain complete patient file management.</p> <p>14. Should be simple and easy to operate with LCD touch screen display.</p> <p>15. Should have facility to customize markers, display style, language, operation mode, print traces & patient information display as per user preference.</p> <p>16. Should provide color coded alerts and status messages for caution & action to be taken.</p> <p>17. Should be supplied with viewer software to transfer & view the data to any Microsoft window PC, print & capture images</p> <p>18. Should have inbuilt CD/DVD writer for archiving patient files and software updates</p> <p>19. Should have inbuilt thermal printer to print traces & other patient information.</p> <p>20. Should have facility to select different combination of graphs for print.</p> <p>21. Should have RS 232 interface & serial IO port for Network / Ethernet connection.</p> <p>22. Should have inbuilt handle for easy transportation.</p> <p>23. Monitor should be supplied complete with cart, thermal paper, electrode, EEG paste and Disposables/reusables enough for 500 patients.</p> <p>24. EEG Electrodes- 12, Skin preparing gel-10 in number</p> <p>25. Should conform to international quality standard.</p> <p>Newer machine can monitor 2/4 neonatal simultaneously, facility.</p>
5	Incubator	<p>1 Description of Function</p> <p>1.1 An infant incubator provides a closed, controlled environment that warms an infant by circulating heated air over the skin. The heat is then absorbed into the body by tissue conduction and blood convection. Ideally, both the skin and core temperatures should be maintained with only minor variations.</p> <p>2 Operational Requirements</p> <p>2.1 High quality with humidity and servo controlled double walled with cabinet incubator.</p> <p>2.2 Microprocessor controlled, easy access control panel with feather touch switches</p> <p>2.3 With a facility to elevate base to offer adjustable range</p> <p>2.4 Facility with both servo control as well as air temperature control and servo humidifier</p> <p>2.5 Accommodates shelves and IV poles.</p> <p>2.6 The quality of the material used should very high and crystal transparent</p> <p>2.7 Super quality microprocessor based control system - self test functions are performed</p> <p>2.8 System required complete with Oxygen port with tubing and Gel Mattress.</p> <p>3 Technical Specifications</p> <p>3.1 Continuous bed tilt up to 8° on either sides</p> <p>3.2 Head end raise facility with auto lock.</p> <p>3.3 Both visual and audible alarms for</p>

	<p>(i) Patient and control and high / low temperature alarm. (ii) Air circulation / probe / system / power failure alarm. (iii) Humidity control alarm.</p> <p>3.4 Facility to take x-ray and weight without removing baby. 3.5 Facility to display and trends of temperature information on compatible monitors with other physiological parameter 3.6 Height 140 cm + 5 cm, depth at least 60 mm , width at least 90 mm. Mattress to hood distance 40 cm working level – 90 to 100 cm. Iris port for tubing, probes, leads. 4cm thick gel mattress, easily cleanable. With at least 4” diameter caster wheel with swivel in all directions and with front lockable wheels. Two shelves cabinet with door. Weight 90-100 kg.</p> <p>3.7 Patient control (Servo) mode – 35 deg-37 deg C. and Air Control (Manual mode)- 20 deg C to 39 deg C 3.8 Air velocity less than 10 cm/sec with inner wall. 3.9 Temperature variability less than +/-0.2 deg C. and Temperature resolution 0.1 deg C 3.10 Average oxygen input concentration range 5-15 liters/min or 25-70%. 3.11 Humidification adjustable electronically with digital display . Standard: 10-80% dependent on nursery environment and incubator temperature setting. 3.12 Double wall canopy with Six hand ports with elbow operated flaps with separate ports for tubing. 3.13 CO2 flushing, according to IEC 601-2-19 / 105.1 Maximum CO2 concentration inside incubator 0.2% 3.14 Servo control for Oxygen with integrated monitoring HLL Lifecare Limited 3.16 Air filter :- 0.3 micron 3.17 Built in weighing scale with sensitivity of + 1 gm 3.18 Mattress should be radiolucent 3.19 Provision for X ray cassette holders 3.20 2 drawer storage facility and two platforms for keeping monitors , able to bear at least 5 kg weight each.</p> <p>4 System Configuration Accessories, spares and consumables 4.1 System as specified 4.2 Two sets of extra non disposable temperature sensors and humidification sensors.</p> <p>5 Environmental factors 5.1 Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility or should comply with 89/366/EEC; EMC-directive. 5.2 The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90% 5.3 The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90%</p> <p>6 Power Supply 6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug 6.2 Suitable UPS with 30 Min Backup for complete system</p> <p>7 Standards, Safety and Training 7.1 Should be FDA/CE or BIS approved product</p>
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	Flux meter	Under process of R/c hence deleted
	Air Oxygen Blender	Under process of R/c hence deleted

Schedule-6:

Technical Specification for Psychiatry 11

S No	Name of equipment	Specification
1	Computerised Brief Pulse ECT Machine	<p>Computerised Brief Pulse ECT Machine with Optical Motion Senso EEG,EMG, ECG Monitoring should have following Technical Specifications :-</p> <p>ECT systems should be provide along with split AC to control Room Temperature</p> <p>Should have constant current bi-directional square wave Brief Pulses.</p> <p>Parameter display on LCD as well as on monitor screen.</p> <p>Online calculation of heart rate.</p> <p>Should be able to deliver ECT from voltage 50-400 volts.</p> <p>Should have protection against paddle –to- paddles short circuit or pen circuit conditions.</p> <p>Should have stimulus current 500-800 MA Frequency 20-120 Hz, PulseWidth 0.5-1.5 m.sec stimulation duration of 0.1-5.9 Sec.</p> <p>Minimum Power – 0.6 Joules for 220-ohm Patient Impedance.</p> <p>Maximum Power 205.8 Joules for 220-ohm Patient Impedance.</p> <p>Charge : 5.0 – 1152 mili cimlumba in both manual and timer Mode.</p> <p>Should be provided with optical motion sensor for monitoring Motor Movement during seizure.</p> <p>Should have provision of monitoring EEG, EMG, ECG, Stimulus and Movement with optical sensor.</p> <p>Motion sensor for providing assessing seizures efficacy.</p> <p>Should be provided with monitoring software to view physiological monitoring of up to 4 traces. The trace should be available in real time throughout the treatment.</p>

		<p>Should have facility for the data to be stored with All the treatment parameter on the PC Hard disc or can be transfer to CD.</p> <p>Should have a comprehensive database to store the complete patient information and can be configured according to user needs.</p> <p>Output should displays in joules as well as in mill coulombs.</p> <p>ECT module can be used in stand – alone mode also.</p> <p>System should have facility to record 1 to 24 channels Digital EEG data along with Brain Mapping system.</p> <p>System should have facility to record EEG/ECT data on CD and play Back without Addictions Software. System should have Topographic Brain Mapping with voltage, frequency and spectrum graph.</p> <p>System should have facility to use EEG and ECT, Independently or simultaneously Split Screen facility for viewing channels or simultaneously comparing three different EEG Montages at same time.</p> <p>Spo2 Pulse ox meter facility during ECT.</p> <p>COMPUTER SECTION (HARDWARE)</p> <p>CPU - Dual Core -1.8, 1 GB RAM, 360 HDD, DVD Writer. Monitor 18”TFT , Printer Laser Color Printer , Operating System: Window XP installed. Keyboard, Mouse, Mouse Pad.</p> <p><u>System should have following accessories:-</u></p> <p>Spring loaded ECT Headband, Instruction Manual, EEG, EMG & ECG Electrodes, OSM sensor, Bite Block, Earthing wire, Conductive Jelly, Paper Rim (A4 Size), Rubber Strap Electrodes, EEG Gold Plated Electrodes. Spo2 probe</p> <p>Company Should have official Local service Centre System should be provided along with two ton split AC to control room temperature</p>
2	EEG Machine	<p>Windows based 32 channels digital EEG with Pentium PC and Laser Color Printer.</p> <p>Software : Featuring with Brain Mapping User definable montages Scrolling facility, test review, filter selection, network enabled.</p> <p>32 channel acquisition comprising at 24 EEG and at least 5 bipolar, Channels also unable as EEG and 03 DC / Transducer channels.</p> <p>Raw data storage for reformatting of sweep, speed, filters and montages during analysis.</p> <p>Choice of multiple reference for brain mapping i.e. Car A1, A2 unked ear, C2.</p> <p>Facility to view analysis and acquisition of same time.</p> <p>High performance machine is capable of taking record in</p>

		<p>ICU condition.</p> <p>Unlimited continuous storage depends upon hard disk capacity.</p> <p>Facility to achieve data on CD</p> <p>Facility to measure amplitude and time duration.</p> <p>Unlimited montage formation can be possible.</p> <p>Facility for auto searching of events and comments.</p> <p>Facility to mark and delete events in analysis.</p> <p>User definable events with user definable hot keys.</p> <p>Facility of reporting in MS word (Ms office software option)</p> <p>Facility to store pre define comments with user definable hot keys.</p> <p>Different modes of going to any part of EEG i.e.</p> <ol style="list-style-type: none"> Page forward and backward Auto FWD & BWD Event to event jump. Search bar. <p>User editable photic sets with frequencies ranging from 1 to 30 Hz.</p> <p>Optical isolation of head box to electrically isolate patient from data system can be provide.</p> <p>Compatible with Windows 98 and windows millennium.</p> <p>Fully compatible with Celeron Pentium - P - III, Pentium - IV and (Hardware).</p> <p>CSA/DSA facility should be provided.</p> <p>User has facility to make its own LF & HF filter.</p> <p>A/D conversion 14 bit in hardware.</p> <p>Sampling rate 1024 Hz/ Channel with resolution enhancement to 16 digital signal processing.</p> <p>Storage rate 256 Hz. Channel with resolution enhancement to 16 bits by signal processing.</p> <p>Noise level < 1 u Mohm (0.1 to 1000 Hz)</p> <p>Input impendence > 10 M ohm (0) to 100 Hz)</p> <p>Acquisition method raw data with full sensitivity and full bandwidth.</p> <p>Sensitivity / LF / HF / Notch / Muscle Rej / Montage implemented in a only for display / Printouts.</p> <p>Sensitivity 1 to 1000 u v / mm.</p> <p>Lf (Hz) 0.1, 0.3, 0.5, 1.0, 3.0, 5.0 Hz and user definable (0 to 7 Hz) pole.</p> <p>Muscle Rej. ON / 00, 30 Hz double pole.</p> <p>Hardware : Head box, Photic stimulator with adjustable stand</p> <p>Accessories : Re-usable patient leads, EEG, Jelly, PC Cable etc.</p>
3	Lithium analyser	<p>Lithium analyser can be use to measure serum lithium.</p> <p>Space for operation :</p> <p>Cabin beside the HOD chambers</p> <p>Necessary technical staff :</p> <p>Machine will be operate by psychiatrists</p> <p>Specification :</p>

		<p>01. Compact design 02. High performance and accuracy 03. Easy operation 04. Direct printer connectivity</p>
4	Biofeedback machine	<p>Biofeedback apparatus should be able to record following parameters: Pulse-1 GSR-1 Temperature-1 EEG-1 EMG-1 Respiratory-1 Biofeedback Printer-1 Parameters relax - I relax II Biofeedback instruments should be compact in size and through its ergonomically designed front panel facilitates ease of operation. Each biofeedback instrument converts patient physiological changes (GSR, Pulse rate, temperature, EEG & EMG) into audio as well as visual signals which helps the patient performs self control or autogenic training leading to relaxation. Relax - I GSR INPUT : Through two silver - chloride electrodes, one connected to the sweat glands and the other to any inactive point forming the reference. GSR balance Range : 0 to 1999 K Ohms Display : Visual LED bar in 21 steps (Green 10 steps, yellow 1 step, Red 10 steps) each steps changed by deviation of 10%, 5% or 1% (switch selectable) from the mean GSR value. Actual change in GSR value in K ohms is also displayed on a digital panel meter. TEMPERATURE INPUT : Through a surface temperature probe. Temperature Balance Range : 200C to 400C</p>
5	Alcohol Breath analyzer	<p>Alcohol breath analyzer should be a digital detector which is accurate and easy to use. Space for Operation : Available Necessary Technical staff : Test will be done by Psychiatrist Breathalyzer specifications : Should display the breath alcohol concentration as a 3 digit readout in mg/l and easy to use. Indication of BrA/c 0.00 to 2.00 mg/litre % BrAC Warm up time Below 20 seconds Response time within 3 seconds Auto adjust / reset, with rest button Automatic switch off after 30 sec. Recycle time 10 Seconds Mouth piece 5 x washable mouth piece Sensor semiconductor oxide sensor Continuous using time Without battery</p>

		Over 200 test Replacement Power supply - DC Dimensions (mm) should be compact.
6	Aversion therapy Apparatus	<ul style="list-style-type: none"> • Aversion therapy equipment is an instrument used to retrieve the addicts of alcohol, smoking, drugs etc. Features- • Aversion therapy apparatus is a device which • Produces adjustable painful of electrical pain stimuli, the response • Of irritation occurring to small taste/sight of the addictive is produced. Specifications- • Variable form 0-500V • Multiplier in 3 steps. • Single unit with treatment in single shot.
7	Multi behavior therapy	<p>It is combination of sex therapy, Electro sleep, brain polarizer and aversion therapy in a single unit i.e. four in one with auto cut off timer for treatment.</p> <ul style="list-style-type: none"> • All parameters can be used simultaneously • Brain polarizer useful in patient suffering from depression. • Aversion therapy used for de-addiction. • Should have gold plated electrodes. • MBT console should be fitted in fiber plastic cabinet. • Should have a set of round shape electrode, electro sleep electrode, aversion therapy, brain polarizer electrode, jelly and carry bag.
8	Digital Electro Sleep	<ul style="list-style-type: none"> • Should have facility to treat two patients simultaneously • It should be based on samlac therapy • Stimulus intensity range should be 0 to 30 v and displayed on LCD • Audio stimulus with electric impulses • Power supply 220 V AC-50Hz • Stimulus should be digitally controlled • Audio stimulation with electric stimulation • Should two set of electrodes headphone, jelly & dust cover.
9	Psychometric tools	<p>Following psychological tests are required :</p> <p>A. Personality Test :</p> <p>01. Rorschach test with manual (Exiner's system)</p> <p>02. 16PF Test : Farm A, B, C and D with manual</p> <p>B. Intelligence Tests :</p> <p>01. Wechsler Adult intelligence scale-R (Indian Adaptation) with manual.</p> <p>02. Wechsler children intelligence scale-R (Indian Adaptation) with manual.</p> <p>03. Raven's progressive color matrices with manual.</p> <p>04. Senguin form board with manual.</p> <p>C. Cognitive Test :</p> <p>01. AIIMS Battery of Neuro cognitive assessment with manual.</p>
10	Electrolyte Analyzer With Special Lithium analyzer	<p>Measureable sample, serum, plasma, urine, calibration</p> <p>Measureable sample, serum, plasma, urine, calibration</p>

		standard with auto 2 point calibration.
11	Multi behavior therapy	All parameters can be used simultaneously Brain polariser useful in patient suffering from depression. Aversion Therapy used for de-addiction. Remote control option available.

Schedule-7:

Technical Specification for Skin & V.D.-3

SNo	Item Name	Specifications
	CO2 LASER	Under process of R/c hence deleted
1	Ultraviolet light A chamber	<ul style="list-style-type: none"> • A set of 30 tubes of UV A in metal chamber • Unit with proper insulation for separation of electric wirings from metal panels • The unit provided with mirror type reflectors. • Digital timer for accurate time settings in units and seconds • Cooling fans should be present with speed regulator • Unit should be open from top • Metal casing for the unit • Individual MCB switch for separate pane • Spike guard Protection
2	Ultraviolet light B chamber	<ul style="list-style-type: none"> • A set of 30 tubes of narrow band UV B in metal chamber • Unit with proper insulation for separation of electric wirings from metal panels • The unit provided with mirror type reflectors. • Digital timer for accurate time settings in minutes and seconds • Cooling fans should be present with speed regulator • Unit should be open from top • Metal casing for the unit • Individual MCB switch for separate pane • Spike guard Protection
	Crash cart	Under process of R/c hence deleted
3	Trinocular microscope with Dark ground attachment	<ul style="list-style-type: none"> • Focus -Vertical stage movement: 25mm stage stroke with coarse adjustment limit stopper, Torque adjustment for coarse knobs, Stage mounting position variable, High sensitivity fine focusing knob (minimum adjustment gradations: 1µm) • Illumination-Built-in Koehler illumination for transmitted light, light intensity manager switch, High color reproductivity LED light source, halogen bulb (pre-centered) • Nosepiece - coded quintuple • Stage - with left or right hand low drive control: rotation and torque adjustment mechanisms • Observation tubes – widefield trinocular • Condenser - Phase contrast, darkfield (N.A. 1.1), [phase contrast: for 10x–100x, darkfield: for 10x–100x (up to N.A. 0.80)] • Stop enables dark field observation at 4x through 100x

Schedule-8:

Technical Specification for Radio-diagnosis-3

Sr. No	Name of Equipment	Detail Specifications
1.	3D-4D color Doppler high resolution USG machine:	<p>These are broad specifications the companies should quote with their latest model and comparable technologies. Major or minor deviations from the specifications given below will be evaluated by technical committee for keeping the specific equipment in one category which broadly meets the requirement.</p> <p>Demonstration has to be arranged by the company before the price bid opening at their own cost for their quoted models to the technical committee</p> <ul style="list-style-type: none"> • The system should be State of the art with full Digital Technology with Broadband beamformer & should be for Whole Body applications including Abdominal, Ob/Gyn, Cardiac, Cerebrovascular, Peripheral Vascular, Musculoskeletal, Transcranial & Small Parts Imaging such as Breast, Thyroid, Testes, Intracavitary applications like Transvaginal & Transrectal, & Intraoperative applications. System should have the capability of Epicardial and contrast imaging. • The broadband beamformer should be capable of simultaneously processing ultrasound signals from 1 MHz to 17 MHz. • The system should incorporate facility for High-resolution 2D, M Mode, PW, CW, Colour Flow Imaging, Power Doppler Angio, Duplex, Triplex Imaging modes. Should be capable of Dual Live display of grayscale reference image with colour Doppler image • The equipment should have minimum 50,000 Digital Channels or more, and should be upgradable on the site to higher number of Channels. Higher Number of Channels is preferred. • The system should employ the state of the art Transmit Real Time Compound Imaging Technology with Multiple transmitted lines of sight of at least 9 lines, wherein Multiple Coplanar Images from different viewing angles are obtained and combined into a single compound Image at real-time frame rates for improved visualization & better Image quality in Abdominal & Vascular Imaging & to virtually clean up the Image of artifacts. • System should have advanced Image Processing algorithms to analyze between targets and artifacts so as to sharpen target anatomy and reduce the speckle & artifacts for improved Image quality. • The system should have 256 Grey shades or more. • The system should offer a scan depth up to 30cm.

		<ul style="list-style-type: none"> • The system shall have three universal transducer ports with electronic switching capability allowing any transducer to be connected to any port. • The system should support Convex, Linear, Sector, Volume, Matrix Array and static transducers. It should support volume imaging by freehand, mechanical, and electronic methods. • The system should support multiple fully sampled Live Volume Imaging, for both adult and paediatric imaging. • All transducers should have Broad Bandwidth technology for extreme High Resolution 2D Imaging. The system should be able to capture all frequencies in a single Probe, without the need for user selection. • The system should have a high dynamic range of 160 dB or more. • The system should have facility for zoom (real-time and frozen image) and manipulation of Image through pre processing and post processing with Cine loop viewing of Images of all modes. • System should have Cineloop review facility in individual and mixed modes with memory upto minimum of 2000 images and 100 seconds of M Mode data. • The system should offer a very high frame rate upto 500 frames per second. The system shall be able to perform mechanical 4D acquisitions at 30 Volumes per second. Please specify. • There should not be any reduction or change in pulsed Doppler PRF/scale when moving between duplex pulsed wave Doppler and simultaneous/triple modes. Also, system should offer automatic single button optimization of Doppler baseline and scale. • The system should have Harmonic Imaging for Tissues for hard to image patients. The system shall support Tissue Harmonic Imaging capability on phased, linear, 3D and curved array transducers. Tissue Harmonic Imaging should be available in colour flow imaging, M-Mode, and 3D rendering modes. • System should be able to work in combined mode of Harmonic Imaging and Real-time Compound Imaging to get excellent Image quality. The system shall offer Tissue Harmonic Imaging in Power Doppler imaging mode for improved sensitivity and specificity in differentiating blood/agent from tissue. • The system should have Contrast Harmonic Imaging and should have optimization settings to detect the Contrast Agents. Please specify other advanced Technologies to perform better Contrast Harmonic Imaging.
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		<ul style="list-style-type: none"> • System should offer real-time extended field of view imaging (panoramic imaging) up to 100 cm with curved and linear transducers. All grayscale imaging must be capable of real-time spatial compounding during the panoramic imaging. • The system shall quantitatively calibrate panoramic images, allowing the user to perform area, circumference, distance and curved-linear distance measurements. • The system shall support simultaneous display of volume and multiplanner reconstructed (MPR) views. • The system should have the in-built software tool for imaging MPR, Thick Slice, and slice plane views. • The system shall support full screen display of all 3D views including individual X, Y, Z MPR views and simultaneous display of thumbnail views on the same system display monitor. • Full Trim capability must be supported: Oblique and linear trimming in the MPRs; Freehand trimming of the volume. • The system should support a utility for the creation of user-defined general imaging protocols and the editing of default general imaging protocols. • Preset controls shall include abdominal, carotid, lower extremity venous and gynaecological exam guides that follow industry and accreditation guidelines. • The system should have automatic real-time quantification of Doppler parameters like velocity, frequency, time, heart rate, slope, flow volume, pulsatility index, resistivity index, peak velocity, average value, point value, area and diameter flow volume, etc • The system should provide extensive measurement, calculation and analysis packages for Abdominal (General, Vascular, Renal), Small Parts (Thyroid, Testicle, Breast), Ob/Gyn, Cardiology etc., • The system should support Intima Media Thickness (IMT) Quantification with automatic or user assisted tracing of intima-media complex and the calculation and display of mean and standard deviation IMT based spatial average of intima-media distances from each scan line. • The system should provide automated, real-time analysis of peak and mean Doppler spectral waveforms. • The system should have a flicker free high resolution TFT Flat panel display of a minimum of 20 inch with four way articulation with a provision to adjust the height.
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- System should have Fully Articulating Control Panel including Height, swivel & slide adjustments. Should have a full alphanumeric keyboard with illuminated keys and status display.
- The system should have a fast Boot up time of less than 150 seconds, which switched on from 'OFF' position, and also less than 60 seconds from 'STANDBY' position.
- The system should have digital storage (atleast 1 TB built-in hard disc) and retrieval of B/w & Colour image data (both frozen and cine loops) on built-in as well as removable media (CD, DVD & Magneto optical Disk). System must be able to export JPG and AVI file formats.
- The system should be DICOM 3.0 ready with a facility for structured reporting for OB, GYN, and vascular data.
- **ELASTOGRAPHY**
System shall be equipped to perform elasticity imaging using latest available technology in a variety of application (liver, breast, prostate) and on a variety of transducers (convex, linear and endo-cavitary) accompanied by necessary quantification package software.
One touch entry into elastography mode. Elastogram applied as a region of interest box with user control of size and location through entire field of view. Realtime indicator for elastogram quality. Single screen 2D with elastogram and side-by-side display of 2D image and 2D with elastogram.
Shadow duplication and measurement capability in side-by-side display. Distance and area tools. Acquisition rate control for elastogram optimization. Elastogram optimization settings to optimize to different tissue compositions.
- The System should be capable of FUSION IMAGING. i.e, Fusion of Ultrasound Images with CT,MRI,PET CT with **Needle** tracking system, Auto Registration, Motion artifact Eliminator.

Equipment with above features to be offered with the following Broad Bandwidth Probes

- Broadband Convex Array Transducer 1-5MHz without need for frequency switching.
- Broadband Linear Transducer 5-17MHz without need for frequency switching.
- Broad Band Transvaginal / Transrectal Probe with frequency range between 5 to 9 Mhz.
- Broadband Volume Transducer 2-6MHz without need for frequency switching for 4D Applications.

The system should have the following Documentation Devices:

1. Black & White Thermal Printer.
2. On-Line UPS of appropriate rating from a reputed brand.

		<p>3. Colour Laser Printer.</p> <p>4. Latest computer system with at least 1 Tb hard disc and 2 GB RAM for image storage/Transfer and reporting. 1000 DVDs for data storage.</p> <p>WARRANTY;</p> <p>The complete system including the machine, equipments & all accessories including computer system, AC to be under warranty for 5 years. Thereafter, a comprehensive maintenance contract (including repair/replacement of the parts) of the complete system, all accessories, computers and printers and all other items supplied/ installed should be offered for 5 years.</p> <p>During warranty/ AMC period all breakdowns must be attended to within 24 hours and repairs completed within 72 hours of reporting.</p> <p>DOWN TIME:</p> <p>a. Maximum acceptable down time of equipment during the warranty period/AMC should not exceed five percent, calculated separately for each year.</p> <p>b. If the down time exceeds the level, then the warranty period / AMC to be extended by twice the period of downtime exceeding 5%.</p> <p>RESPONSIBILITIES:</p> <p>During the period of warranty/ comprehensive maintenance contract, the following will be the responsibilities of the firm.</p> <p>a. Maintenance and replacement of the batteries of the UPS as and when necessary.</p> <p>b. Air conditioning; maintaining optimum temperatures in all seasons.</p> <p>c. To provide/ refill/ replace cartridge used for the printer supplied.</p> <p>d. Up-gradation of software of main equipment, workstation, servers and supplied computers.</p> <p>e. Maintenance of the civil structure including all electrical and other fixtures.</p>
2.	<p>DIGITAL SUBTRACTION ANGIOGRAPHY UNIT FOR DIAGNOSTIC AND INTERVENTIONAL RADIOLOGY WORK</p>	<p>A single plane, ceiling mounted C-arm, digital subtraction angiography (DSA) system with flat panel detector technology for vascular diagnostic and interventional procedures. The equipment should have the following features:</p> <p>A. Mechanical System consisting of C-Arm and Table</p> <p>The C-arm and table system should be for multipurpose diagnostic and interventional procedures</p> <p>1. C-arm should be Multidirectional, ceiling mounted.</p> <p>2. The C-arm should be able to rotate motorized to both left and right of patient for greater access to patient.</p> <p>3. All movements should be motorized with C-Arm angulations of minimum RAO/LAO ± 120 deg. / 120 deg. CRAN/CAUD ± 45 deg. at head-end position. With 15 deg / sec or more speed for LAO/RAO and 15 deg / sec or more speed for CRAN/CAUD. In addition, motorized movement of the image intensifier on vertical axis at specified speed must be available.</p> <p>4. System should allow access to the patient from both sides of table.</p>

5. Imaging should be possible at any position of the C-arm.
6. Motorized parking of C-Arm in case of catastrophe for resuscitating the patient.
7. Motorized peripheral position for peripheral and vascular intervention should be available. It should be possible to position the C-arm on the left side as well as on the right side of the patient.
8. The system should have user defined various programmed positions of the C-arm.
9. Simultaneous movement of any two axes for direct selection of complex/double oblique angulations including cranio-caudal angulations.
10. Floor mounted table with carbon fibre table top and swivel capability for easy patient transportation and increasing throughput.
11. Table should have free-floating table top with motorized vertical travel and motorized stepping.
12. The table should have preferably motorized axis tilt (head-down and head-up).
13. System should have provision for collision protection.
14. Table edge should be suitable for a wide range of accessories like arm rest, hand grips.
15. The table top should be equipped with gantry controls, table system controls, collimation controls and optional Intravenous poles.
16. Please specify the range of table travel in longitudinal and vertical directions as well as speed.
17. Table should support patient weight up to 160kgs.
18. The table should have head to toe coverage without repositioning of the patient. Please specify the table dimensions.
19. System should have well designed footswitch for releasing fluoroscopy, acquisition and table brakes.

A. X-Ray system Generator:

1. High frequency x-ray generator with automatic regulation of radiation dose rate for all fluoro DSA and acquisition mode.
2. The minimum power ratings should be 100KW or more at 100KV compatible with high-resolution imaging.
3. Fluoroscopy exposure times and mA should be automatically controlled based on fluoroscopic values.
4. System should have pulsed fluoroscopy system.
5. Please specify the fluoroscopy pulse width and the technology used for generating pulse fluoroscopy. Please support advantages of your technology with published data in peer reviewed international journals.

B. X-Ray Tube :

1. X-Ray tube should be dual focus with high cooling rate to ensure continuous operation, capable of pulsed fluoroscopy. Please specify the focal spot sizes and kW outputs.
2. Anode heat storage capacity should be 2MHU or above.
3. Total heat capacity should be large. Please specify.
4. The system should have integrated computer controlled Automatic X-Ray Beam Filtering.
5. The x-ray tube should have noiseless operation with latest tube cooling technology, minimum 2 MHU heat storage capacity to run continuously for 6-8 hours without shutting off. Please specify the

technology used for tube cooling.

6. Anode cooling rate:– Maximum heat dissipation with large cooling capacity. Please specify.

C. Digital Imaging System :

1. A flat panel detector digital system of **30 x 30cms or more** with acquisition and processing in **2 K X 2 K matrix** with at least 12 bit digitization. Please specify the detector diagonal and pixel size of the detector. Smaller size of pixel would be preferred.
2. Selection of reference image with C-Arm position.
3. Cine loop replay facility & last image hold facility during fluoroscopy.
4. Image storage capacity of at least 1,00,000 images in 1024 x 1024 matrix at 10 / 12 bits on the main system disk.
5. The system should have on-line & off-line vessel analysis programme. The software should have Auto-calibration facility. The analysis should be possible from table side in the examination room and from the control room.
6. The system should have capabilities of ECG display on the live image monitor and archive along with angio images on CD, during the acquisition.
7. The system should have direct digital Subtraction Angiography facility in 1024x1024/12 bit matrix. The acquisition frame rate should be from 0.5 frames/sec to 15 frames/ sec.
8. The system should have Peripheral Digital Angiography with stepping with online subtraction display in the examination room with a single contrast injection, while chasing contrast medium bolus.
9. The system should have facility for digital 3D rotation angiography with dynamic subtraction image display, the rotation speed should be at least 40-deg/sec. please mention the acquisition frame rate and matrix size. It should be possible to reconstruct the acquired images on a workstation with display in the examination room.
10. The digital system should preferably have good processing software suitable for large patients and projections over varying density backgrounds such as spine & lung fields.
11. The quantification and evaluation software with automatic and interactive detection of lesions and stenosis quantification is desirable.
12. Digital angiography without subtraction also, must be available in the system.
13. The system should have facility for road mapping of good quality.

D. Image display system

1. Four high brightness 19-inch TFT (LCD) black-and-white flat monitors for flicker-free, distortion-free viewing should be provided, two in angio room and two on console for live and reference image display.

E. Control Console

1. All system movements of C-arm, table, image display, image review, image post processing and quantification shall be controlled both by the operator at the table in the angio room and in console room.
2. The system should have facility for edge enhancement, positive/negative image display, windowing, contrast/brightness,

electronic shuttering, image/pixel shifting, vertical and horizontal image reversal, zoom functions.

3. The system should have fast and direct access to all series, single images, in both examination and control room.
4. System should have angle/distance measurement, image labeling and patient positioning facilities.
5. System should have a dosimeter on the console and also on the inside monitor to display on line, actual radiation dose.
6. There should be provision for display of time required for procedures e.g.; balloon inflation etc on the live monitor in the operating room.

F. Digital Archiving on Compact Disk

1. The system should have FDA approved system for recording in DICOM 3.0 (or higher version) and CD Medical format having capability of bi-directional transfer of images.
2. Dynamic viewing of CD images, single frame step by step, fast forward & fast rewind.
3. Image transfer from digital system in background mode without affecting the system operation.
4. System should have facility for recording images on CD at control room.

G. Essential Accessories

1. Floor mounted high –pressure injection system having features of programmed flow rate, volume with variable pressure limits for all type of angiographies with disposable syringes. The system should be compatible with all commercially available syringes. Vendor should ensure supply of these syringes which are well within the expiry date, in small batches as per the requirement of the department. One spare injector must be supplied.
2. Multiport, single film (14”x17”) camera with resolution of 600 DPI or more, DICOM ready and online, with laser print technology.
3. A DICOM Print facility should be available to connect to a network Laser Printer (The Laser Printer should also be offered.)
4. DICOM Software with fast speed CD writer.
5. Lead glass 100x 150 cm for console room.
6. Ceiling suspended lead glass radiation protection system and table side protection system.
7. Five wrap around type lead aprons, five thyroid shields, five universal lead eye glasses.
8. Mattress and arm supports for patient table.
9. Suitable UPS with complete back up for the entire system including generator, digital system all essential accessories to continue angio acquisition for 30 minutes. The battery backup of rated capacity should be quoted, for the complete system.
10. Separate PC station to down load images from angio equipment for demonstration, conferencing, preparation of teaching aids and presentations related to the angio studies, complete with a high quality LCD projector.
11. A 6-channel monitor for ECG, 2 pressures, respiration, SpO2, and NIBP.
12. One table mounted radiation protection device, one ceiling suspended examination lamp.

		<p>H. Warranty/After sale service</p> <ol style="list-style-type: none"> 1. Five year comprehensive on-site warranty of entire system (Spares and labour) including x-ray tube and all accessories and civil, electrical and air-conditioning works. This will be followed by 5 years comprehensive CMC. 2. 95% uptime guarantee should be given. In case down time exceeds 5%, penalty as per Govt. rules will be applied. <p>I. Prices to be quoted separately.</p> <ol style="list-style-type: none"> 1. Hardware & Software required to displays CT like images in the examination room acquired with rotational angiography. Specify the low contrast resolution with standard phantom. 2. Multimodality viewing facility to view images from CT and MRI rooms. <p>Vendor should inspect the site of installation and modify the site suitably in respect of the equipment room/ examination room, console, waiting area including air conditioning at the respective site.</p> <p>Vendor may visit the different site for above said purpose.</p> <p>Demonstration has to be arranged by the company before the price bid opening at their own cost for their quoted models to the technical committee.</p>
3.	<p>80KW HIGH FREQUENCY X-RAY MACHINE WITH I I TV</p>	<p><u>SPECIFICATIONS OF 80KW HIGH FREQUENCY X-RAY MACHINE WITH I I TV</u></p> <p><u>X-Ray Generator:</u></p> <ul style="list-style-type: none"> - A 800mA or more, 150 KV, 80 KW High Frequency X-Ray Generators for General Radiography & Fluoroscopy. - KV RANGE (Rad.): 40 to 150 KVP. - MA RANGE (Rad.): 10 to 800mA or more. - MAs RANGE (Rad.): 1 to 200 mAs - FLUORO KV RANGE: 40 to 120 KV - FLUORO MA RANGE: 1 to 4mA in steps of 0.1mA each. - FLUORO TIME: 5 Minutes cumulative timer - CONTROL: A very compact, Soft Touch Control Panel having following functions & indications. The Panel can be supplied in Floor or Wall mount & has a Spill Proof design. Following features are available on the Control Panel. <ul style="list-style-type: none"> • Fluoro/Rad. Mode Selection Switch. • Digital Display of KV, mA & mAs. • 5 step film density control. • KV & mAs increase and decrease switches. • Tube focal spot selection Switch. • Self-diagnostic program with Indicators for Earth fault error, KV error, filament error & Tube's Thermal Overload. <p><u>X-Ray Tube:</u></p>

- Two Nos. Rotating Anode, Dual focus thermally protected having focal spot of 0.6 & 1.2 mm. Anode heat storage capacity of the Tube should be 300 KHU or more.
- A very compact H.V. Tank filled with high dielectric transformer oil.
- Two pairs of 8 meter H.V. Cable compatible with the X-Ray Tube.
- Two nos. light beam diaphragm with knobs for adjustment of Exposure Area.

Tube Stand:

- Floor to Ceiling Stand & with Counter Balanced Tube Head (Rotatable ± 180 Degree), 360 Degree Rotatable; mounted on Floor Ceiling Rails for convenient movements.

Table:

- Motorized Table with Motorized Bucky having Grid ratio 8:1, 85 Lines/inch and Stainless steel cassette tray. The table should move from Trendlenburg position to vertical with Automatic stop at Horizontal, Vertical & Trendlenburg Position. Provision should be given to manually move the table in case of Power failure.
- Semi Automatic Spot Film Device capable of doing all routine Spot Filming (4 on 1, 2 on 1, 1 on 1) for use with 8" x 10", 10" x 12", 14" x 14" cassettes. Grid with Ratio 6:1, 60 lines per inch. SFD should have transverse movement. Stray radiation lead rubber flaps the table should be provided with longitudinal movement of the table top.
- Table Accessories like Compression band, hand grips, Foot rest & foot step should be provided.

IITV System and Digital Fluoro Memory: (Quote as optional)

- 9" Triple field Image Intensifier.
- High Resolution compact CCD Camera with 752 (H) x 582 (v) picture elements.
- 02 nos. 17", High-Resolution TFT Monitor along with the trolley.

MEMORY SYSTEM having the following minimum features should be provided:

- ✓ 2 Monitors System for LIH, LIVE and Stored Images.
- ✓ Permanent Image Storage capacity of Approx. 10,000 Images.
- ✓ 50 Temporary Image Storage for quick review.
- ✓ 32 Bit Image Storage for Excellent Resolution.
- ✓ Image Sharpening (Real-time or Stored Images).
- ✓ Image Rotation.
- ✓ Colorized Images.
- ✓ Negative Images (Gray Level Invert).
- ✓ Frames Averaging for smoothing of Images. (Real time) 256 frames.
- ✓ QUAD view (4 Images on Monitor).
- ✓ Cine Loop of 500 frames (Multiple Cine Loops can be stored)

		<p>permanently).</p> <ul style="list-style-type: none"> ✓ Variably frame Rate of 2, 5, 10, 15 & 27 frames per second for cine Loop. ✓ Patient's Name, Operator Name, Hospital Name, Date & Time display on Monitor. ✓ ON Screen Measurements – Length (X & Y) & Area. ✓ Contrast enhancement of Area of Interest. ✓ Facility for Image Printing. ✓ Automatic capture and storage of cine loop with cine foot switch. ✓ Printing options in different formats (Frames of different loops can be printed on the same sheet). ✓ Frame rate selection. ✓ LAN connectivity. ✓ DICOM compatible. <p><u>Other Requirements</u></p> <ul style="list-style-type: none"> - The unit should be approved by AERB. - The unit should also be CE certified. - The company should have a Local Service Center. - The company should have proven track record in Govt. sector. <p>Warranty including tube – 5 years</p> <p>CMC including tube – 5 years</p> <p>Demonstration has to be arranged by the company before the price bid opening at their own cost for their quoted models to the technical committee.</p>
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Schedule-9:

Technical Specification for Combination of pulsed microwave therapy cum computerised Traction unit with couch.

Both Pulsed Microwave Therapy & Computerized Traction Unit should be attachable to a single couch so that both the Therapies can be given to a patient simultaneously with cumulative benefits with following specifications:

PULSED MICROWAVE THERAPY

1. Pulsed Microwave Therapy should be of the latest modern technology.
2. Pulsed Microwave Therapy have various Intensity to stimulate the energetic regulation capacity of the body cells.
3. It should have linear output without High Frequency Capbles.
4. It should be without separate radiators/emitters.
5. Microwave Radiated through a brass Wave Guide with three slits, i.e. Seven Radiator output possibility.
6. Operating Frequency : 2,450 MHz
7. Mains Voltage 230 V +/- 10%, 50 Hz.
8. Pulse output - 1500 W peak,
9. Maximum Average Output 250 watts

10. It should give IMPULSE OUTPUT

COMPUTERISED TRACTION UNIT:

1. Traction Unit should be computerized.
2. The Unit should perform Static Force, Intermittent Force, Pulsation Force and Combination of Static, Intermittent, Pulsation Forces.
3. Traction Unit should perform Lumber Traction and Cervical Traction
4. Unit should provide with Belts, Straps and Flexion Stool for Lumber and Cervical Traction.
5. With 60 Programs for Extension i.e.59 fixed and one variable programs.
6. Self Diagnostics-9 Service Programs
7. Provision of Safety Switch controllable by patient.
8. Maximum Lumber Force - 60 Kg.
9. Maximum Cervical Force - 12 Kg.

COUCH

1. Couch Frame should be of rugged metal frame with padding material.
2. Couch should be such that both the Pulsed Microwave Therapy and Traction Unit are attachable to the same Couch.
3. Couch should be in five sections having a free rolling section to avoid any frictional errors of force.

Schedule-10:

Technical Specification for NABL Lab- 02

Sr. No.	Name of Instruments/Items & use	Minimum Specification required
1	<u>Fridge</u> <u>(Refrigerators)</u>	<ol style="list-style-type: none">1. Double walled construction with backside triple.2. Insulation 3” Thick PUF Insulation ensures stable temperature & reduced energy consumption.3. Motorized Blower at back side of the chamber develops unique air flow system which maximum uniform temperature condition inside the chamber. Unique air flow assures quick recovery after door openings.4. Full view observation Acrylic door with gasket to observe sample inside the chamber.5. High quality S.S. Tubular Heaters are used for better heating.6. CFC Free hermitically sealed Emerson Copeland make compressor for better cooling with R 134 A (Eco friendly) refrigerant with time delay to safe guard compressor system.

		7. Audio & Visual alarms are generated for Temperature variation & Cutoff system.Safety Thermostat Cutoff the supply in case temperature goes above 400 C & activate safety alarm.
		8. Compressor ON delay timer (2 min.) to safe guard the compressor. In built over load protector provided for hermetically sealed compressor.
		9. Specially designed stainless steel rod trays ensure uniform temperature distribution.
		10. Material of construction:Inside S.S. 304 mirror finish. Outer mild steel (CRCA) sheet powder coated.
		11. Temperature Range: 2°C to 8°C
		12. Temperature Accuracy: ± 0.5°C
		13. Temperature Uniformity: ± 2 °C
		14. Control System: Imported Microprocessor based auto tuned PID controller with CE mark & dual display of set value & process value.
		15. Documentation: Should provide IQ, OQ & PQ Documents in soft copy
		16. Validation: 2 hrs. Loaded condition or unloaded condition on one cycle (4 or 8 temperature probes)
2	<u>Hot Air Oven</u>	1. Size: WxHxD 605x605x605 mm approximate.
		2. Triple walled construction.
		3. 3” High grade heavy glass wool insulation ensures stable temperature & reduced energy consumption.
		4. Motorized Blower on top side of the chamber develops unique air flow system which ensures maximum uniform temperature distribution inside the chamber. Unique air flow assures quick recovery after door openings.
		5. 1/12 HP, TEFC , F-class insulation, Single Phase, 1440 RPM, 230 Volts
		6. S. S. tubular heating elements used on side walls to maintain uniform condition inside the chamber.
		7. Safety cum stand by thermostat to cut off the heater supply in case of overshoot of temperature.

		8. Single door fitted on heavy cast and chromium plated hinges with spring and roller type latch with asbestos gasket to avoid heat loss.
		9. Specially designed stainless steel rod trays / G.I. wire mesh trays (For MS Inner) which ensure uniform temperature distribution.
		10. Inside S.S. 304 mirror finish. Outer Mild steel (CRCA) sheet with powder coated.
		11. Temp. Range: 5 ⁰ C above ambient to 250 ⁰ C
		12. Temp. Accuracy: ± 0.2 ⁰ C
		13. Temp. Uniformity: + 1 ⁰ C
		14. Imported Microprocessor based auto tuned PID controller with CE mark & dual display of set value & process value for precise control of temperature.
		15. Should Provide IQ, OQ & PQ Documents in soft copy
		16. 2 hrs. Loaded condition or unloaded condition on one cycle (4 or 8 temperature probes)
		17. Number of Trays- 2 or 3 nos.
		18. Instrument should be supplied with Stabiliser of competent capacity.

Section – VIII

Bidder Information Form

(Proforma for equipment and quality control employed by the manufacturer(s))

Tender Reference No.:

Date of opening :

Time :

Name and address of the Bidder:

Note: All the following details shall relate to the manufacturer(s) for the goods quoted for.

01 Name of the manufacturer

- a. Name of authorised signatory
- b. full postal address
- c. full address of the manufacturing premises
- d. telegraphic address
- e. telephone number
- f. E-mail & fax number

02 **Expertise of Organization:**

- Organization structure (e.g. service provider, wholesaler, trader, manufacturer)
- Years of company experience
- Areas of expertise of organization
- Current Licenses if any, and Permits (with dates, numbers and expiration dates)
- Health Authority Registration Information
- Production Capacity

03 Plant and machinery details

03 Manufacturing process details

04 Monthly (single shift) production capacity of goods quoted for

- a. normal
- b. maximum

05 Total annual turn-over (value in Rupees)

06 Quality control arrangement details

- a. for incoming materials and bought-out components
- b. for process control
- c. for final product evaluation

07 Quality Management System

08 Test certificate held

- a. International Quality Management System (QMS)
- b. type test
- c. BIS/ISO certification
- d. Compliance to US FDA 21 CFR
- e. Compliance to IEC60601

08 Details of staff

- a. technical
- b. skilled
- c. unskilled

09. **Financial data of the organization**

- Audited financial statement for the last three years
- Bank name and address

10. **Client Reference List:**

- Please provide references such as customer details, tel. nos. etc.

Name of client/customer:	Name/model of equipment supplied	Qty. installed	Contact person name, telephone and e-mail Id.
1.			
2.			
3.			

11. **Contact details of persons Government Medical College may contact for requests for clarification during bid evaluation:**

- Name/Surname:
- Tel Number (direct):Landline and Mobile no.
- Email address (direct):

(Enclosed earlier in this tender)

PS: This person must be available during the next two weeks following receipt of bid

Signature and seal of the Bidder

Section – IX

Qualification Criteria

- a. The Bidder should be (i) a Manufacturer in India or (ii) Indian subsidiary of foreign manufacturer or (iii) Importer of foreign manufacturer

 - b. The Bidder should meet the following criteria:
 - i. It should have service support facilities in India with qualified and trained engineers / technicians, spare parts, testing & calibration equipment etc. for providing installation, after-sales support during warranty/ CMC period.
 - ii. In case, bidder is an Indian Manufacturer or Indian Subsidiary of foreign manufacturer, it should have supplied and installed in last three years from the date of tender opening, at least 100% similar equipment meeting major parameters of technical specifications, anywhere in India and which is functioning satisfactory.
 - iii. In case, bidder is an authorized importer of a foreign manufacturer, it should have supplied and installed **at least 50% tendered quantity of similar model** in last three years from the date of tender opening, anywhere in India of the same manufacturer and which is functioning satisfactory.
1. In support of b.(i), the Bidder shall furnish details of service support facilities in india, including addresses of such service support facilities, brief profile of engineers / technicians, list of spare parts, testing & calibration equipment etc. currently available.
 2. In support of b.(ii) and (iii), the Bidder shall furnish Performance statement in the enclosed Proforma 'A', which shall include Satisfactory Performance Certificate issued by respective Purchasers / users of such equipments in respect of supplies made.
 3. The Bidder shall furnish a brief write-up, packed with adequate data explaining and establishing his available capacity/capability (both technical and financial) to perform the Contract (if awarded) within the stipulated time period, after meeting all its current/present commitments. The Bidder shall also furnish details of Equipment and Quality Control in the enclosed Section VIII.
 4. Notwithstanding anything stated above, the Tender Inviting Authority reserves the right to assess the Bidder'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 Tender Inviting Authority.
 5. The Tender Inviting Authority reserves the right to ask for a free demonstration of the quoted equipment at a pre determined place acceptable to the Tender Inviting Authority for technical acceptability as per the tender specifications, before the opening of the Price Tender.

PROFORMA 'A'
PROFORMA FOR PERFORMANCE STATEMENT

(For the period of last three years)

Tender Reference No. : _____

Date of opening : _____

Time : _____

Name and address of the Bidder : _____

Name and address of the manufacturer : _____

Order placed by (full address, tel.& e-mail of Tender Inviting Authority/Ordering Authority)	Order number and date	Description and quantity of ordered goods and services	Order Quantity	Make / Model	Value of order (Rs.) to be indicated	Date of completion of Contract		Remarks indicating reasons for delay if any	Have the goods been functioning Satisfactorily (attach documentary proof)**
						As per contract	Actual		
1	2	3	4	5	6	7	8	9	10

Note: All columns must be filled as this would be seen during evaluation

Signature and seal of the Bidder

**The documentary proof will be a certificate (as detailed in the format) from the consignee/end user with cross-reference of order no. and date in the certificate along with a notarized certification authenticating the correctness of the information furnished. If at any time, information furnished is proved to be false or incorrect, the earnest money furnished will be forfeited

- a. For supplies made to public sector units in India, an affidavit that the performance statement given is correct
- b. However in case of supplies to private sector units, an affidavit confirming that the performance statement is correct along with
 - i. Copy of Purchase orders
 - ii. Copy of Invoices
 - iii. Proof of payment received from Purchasers
 - iv. Documentary evidence (Client certificate) in support of satisfactory completion of orders.

Section – X TENDER FORM

Date _____

To,
Managing Director,
Madhya Pradesh Public Health Services Corporation Limited
1st Floor OILFED BUILDING, ARERA HILLS
Bhopal – 462 011 Madhya Pradesh
Ref. Your Tender Ref. No. _____ dated _____

We, the undersigned have examined the above mentioned TE document, including amendment/corrigendum No. _____, dated _____ (if any), the receipt of which is hereby confirmed. We now offer to supply and deliver goods as per table below and in conformity with your above referred document for the amount as mentioned in our price bid which has been submitted online:

Schedule No.	Brief Description of Goods and Make & Model	Country of Origin	Quantity (Nos.)

If our tender is accepted, we undertake to supply the goods and perform the services as mentioned above, in accordance with the delivery schedule specified in the List of Requirements and also accepts all conditions of the tender document.

We further confirm that, if our tender is accepted, we shall provide you with a performance security of required amount in an acceptable form in terms of GCC clause 5, read with modification, if any, in Section - V – “Special Conditions of Contract”, for due performance of the contract.

We agree to keep our tender valid for acceptance as required in the GIT clause 20, read with modification, if any in Section - III – “Special Instructions to Bidders” or for subsequently extended period, if any, agreed to by us. We also accordingly confirm to abide by this tender up to the aforesaid period and this tender may be accepted any time before the expiry of the aforesaid period. We further confirm that, until a formal contract is executed, this tender read with your written acceptance thereof within the aforesaid period shall constitute a binding contract between us.

We further understand that you are not bound to accept the lowest or any tender you may receive against your above-referred tender enquiry.

We confirm that we do not stand deregistered/banned/blacklisted by any Govt. Authorities.
We confirm that we fully agree to the terms and conditions specified in above mentioned TE document, including amendment/ corrigendum if any

Signature with date

(Name and designation) Duly authorised to sign tender for and on behalf of

SECTION – XI (A) PRICE SCHEDULE (to be filled on line only)
PRICE SCHEDULE FOR DOMESTIC GOODS OR GOODS OF FOREIGN ORIGIN LOCATED WITHIN INDIA

1	2	3	4	5							6
Schedule	Brief Description of Goods	Country of Origin	Quantity (Nos.)	Price per unit (Rs.)							Total Price (at Consignee Site) basis (Rs.) 4 x 5(g)
				Ex - factory/ Ex - warehouse /Ex-showroom /Off - the shelf (a)	Excise Duty (if any) [%age & value] (b)	Sales Tax/ VAT(if any) [%age & value] (c)	Packing and Forwarding charges (d)	Inland Transportation, Insurance for a period including 3 months beyond date of delivery, loading/ unloading and Incidental costs till consignee's site (e)	Incidental Services (including Installation & Commissioning, Supervision, Demonstration and Training) at the Consignee's site (f)	Unit Price (at Consignee Site) basis (g) =a+b+c+d+e+f	

Total Tender price in Rupees: _____

In words: _____

Note: -

1. If there is a discrepancy between the unit price and total price THE UNIT PRICE shall prevail.
2. The charges for Annual CMC after warranty and shall be as per Section – XI (B).

Name _____

Business Address _____

Place: _____

Signature of Bidder _____

Date: _____

Seal of the Bidder _____

SECTION – XI (B) PRICE SCHEDULE
PRICE SCHEDULE FOR ANNUAL COMPREHENSIVE MAINTENANCE CONTRACT (CMC) AFTER WARRANTY PERIOD (To be filled online only)

1	2	3	4			5	6
Schedule	Brief Description of Goods	Quantity (Nos.)	Annual Comprehensive Maintenance Contract Cost for each year after completion of warranty period (inclusive of all taxes)			Total Annual Comprehensive Maintenance Contract Cost for each unit for three years	Annual Comprehensive Maintenance Contract Cost for total units for three years (3 x 5)
			Year-1	Year-2	Year-3	(a)+(b)+(c)	
			(a)	(b)	(c)		

Place: _____

Date: _____

Name _____

Business Address _____

Signature of Bidder _____

Seal of the Bidder _____

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Section – XII
MANUFACTURER’S AUTHORISATION FORM

To,
Managing Director
Madhya Pradesh Public Health Services Corporation Limited
1, ARERA HILLS, Tilhan sangh building campus
Bhopal – 462 011 Madhya Pradesh

Dear Sirs,

Ref. Your TE document No _____, dated _____
We, _____ who are proven and reputable manufacturers
of _____ (*name and description of the goods offered in the tender*) having
factories at _____, hereby authorise
Messrs _____ (*name and address of the agent*) to submit a tender,
process the same further and enter into a contract with you against your requirement as contained in
the above referred TE documents for the above goods manufactured by us.

We also state that we are not participating directly in this Tender for the following reasons:
_____ (*please provide reason(s) here*)

We further confirm that no supplier or firm or individual other than Messrs.
_____ (*name and address of the above agent*) is authorised to submit a
tender, process the same further and enter into a contract with you against your requirement as
contained in the above referred TE documents for the above goods manufactured by us.

We also hereby extend our full warranty, CMC as applicable as per clause 15 of the General
Conditions of Contract, read with modification, if any, in the Special Conditions of Contract for the
goods and services offered for supply by the above firm against this TE document.

We also hereby confirm that we would be responsible for the satisfactory execution of contract placed
on the authorized dealer / distributor.

We also confirm that the price quoted by our dealer / distributor shall not exceed the price which we
would have quoted directly.

Yours faithfully,

[Signature with date, name and designation]
for and on behalf of Messrs _____

[Name & address of the manufacturers]

*Note: 1. This letter of authorisation should be on the letter head of the manufacturing firm and
should be signed by a person competent and having the power of attorney to legally bind the
manufacturer.
2. Original letter may be sent.*

SECTION – XIII
BANK GUARANTEE FORM FOR EMD

Whereas _____ (hereinafter called the “Bidder”) has submitted its quotation dated _____ for the supply of _____ (hereinafter called the “tender”) against the Tender Inviting Authority’s tender enquiry No. _____ Know all persons by these presents that we _____ of _____ (Hereinafter called the “Bank”) having our registered office at _____ are bound unto _____ (hereinafter called the “Tender Inviting Authority) in the sum of _____ for which payment will and truly to be made to the said Tender Inviting Authority, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this _____ day of _____ 20____. The conditions of this obligation are:

- (1) If the Bidder withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.
- (2) If the Bidder having been notified of the acceptance of his tender by the Tender Inviting Authority during the period of its validity:-
 - a) fails or refuses to furnish the performance security for the due performance of the contract.
or
 - b) fails or refuses to accept/execute the contract.
or
 - c) if it comes to notice that the information/documents furnished in its tender is incorrect, false, misleading or forged

We undertake to pay the Tender Inviting Authority up to the above amount upon receipt of its first written demand, without the Tender Inviting Authority having to substantiate its demand, provided that in its demand the Tender Inviting Authority will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition(s). This guarantee will remain in force for a period 180 days after due date of opening of techno-commercial bids and any demand in respect thereof should reach the Bank not later than the above date.

(Signature of the authorised officer of the Bank)

Name and designation of the officer

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

SECTION – XIV

BANK GUARANTEE FORM FOR PERFORMANCE SECURITY

To

Managing Director,
Madhya Pradesh Public Health Services Corporation Limited
1, ARERA HILLS, Tilhan sangh building campus
Bhopal – 462 011 Madhya Pradesh

WHEREAS _____ (Name and address of the supplier) (Hereinafter called “the supplier”) has undertaken, in pursuance of contract no _____ dated _____ to supply (description of goods and services) (herein after 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 scheduled commercial bank recognised by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

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

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total 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 limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

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

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

This guarantee shall be valid up to _____ months from the date of Notification of Award i.e. up to ----- (indicate date)

.....
(Signature with date of the authorised officer of the Bank)

.....
Name and designation of the officer

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

**SECTION – XV
CONTRACT FORM - A**

**CONTRACT FORM FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING
INCLUDING WARRANTY SERVICES OF GOODS**

Contract No: _____

dated: _____

This is in continuation to this office’s Notification of Award No _____ dated _____

1. Name & address of the Supplier: _____
2. Tender Inviting Authority’s TE document No _____ dated _____ and subsequent Amendment No _____, dated _____ (if any), issued by the Tender Inviting Authority
3. Supplier’s Tender No _____ dated _____ and subsequent communication(s) No _____ dated _____ (if any), exchanged between the supplier and the Tender Inviting Authority in connection with this tender.
4. In addition to this Contract Form, the following documents etc, which are included in the documents mentioned under paragraphs 2 and 3 above, shall also be deemed to form and be read and construed as integral part of this contract:

- (i) General Conditions of Contract;
- (ii) Special Conditions of Contract;
- (iii) List of Requirements;
- (iv) Technical Specifications;
- (v) Bidder Information Form;
- (vi) Tender Form furnished by the supplier;
- (vii) Price Schedule(s) furnished by the supplier in its tender;
- (viii) Manufacturers’ Authorisation Form (if applicable for this tender);
- (ix) Tender Inviting Authority’s Notification of Award

Note: The words and expressions used in this contract shall have the same meanings as are respectively assigned to them in the conditions of contract referred to above. Further, the definitions and abbreviations incorporated under clause 1 of Section II – ‘General Instructions to Bidders’ of the Tender Inviting Authority’s TE document shall also apply to this contract.

5. Some terms, conditions, stipulations etc. out of the above-referred documents are reproduced below for ready reference:
 - (i) Brief particulars of the goods and services which shall be supplied/ provided by the supplier are as under:

Schedule No.	Brief description of goods/services	Accounting unit	Quantity to be supplied	Unit Price	Total price	Terms of delivery

Any other additional services (if applicable) and cost thereof: _____

Total value (in figure) _____ (In words) _____

2. Delivery schedule
- (iii) Details of Performance Security
- (iv) Quality Control

- (a) Mode(s), stage(s) and place(s) of conducting inspections and tests.
- (b) Designation and address of Tender Inviting Authority's inspecting officer
- (v) Destination and despatch instructions
- (vi) Consignee, including port consignee, if any
 - 3. Warranty clause
 - 4. Payment terms
 - 5. Paying authority

**(Signature, name and address
of the Tender Inviting Authority's authorised official)
For and on behalf of** _____

Received and accepted this contract

(Signature, name and address of the supplier's executive
duly authorised to sign on behalf of the supplier)

For and on behalf of _____

(Name and address of the supplier)

(Seal of the supplier)

Date: _____

Place: _____

SECTION – XV
CONTRACT FORM – B
CONTRACT FORM FOR ANNUAL COMPREHENSIVE MAINTENANCE CONTRACT

Annual CM Contract No. _____ dated _____
 Between _____

(Address of Head of Hospital/Institute/Medical College)
 And _____

(Name & Address of the Supplier)

Ref: Contract No. _____ dated _____ (Contract No. & date of Contract for supply, installation, commissioning, handing over, Trial run, Training of operators & warranty of goods)

- a) In continuation to the above referred contract, the Contract of Annual Comprehensive Maintenance is hereby concluded as under: -

1	2	3	4			5
Schedule No.	BRIEF DESCRIPTION OF GOODS	QUANTI TY. (Nos.)	Annual Comprehensive Maintenance Contract Cost for Each Unit year wise*.			Total Annual Comprehensive Maintenance Contract Cost for 3 Years [3 x 4]
			1 st	2 nd	3 rd	
			(a)	(b)	(c)	

Total value (in figure) _____ (In words) _____

- b) The CMC commence from the date of expiry of all obligations under Warranty i.e. from _____ (date of expiry of Warranty) and will expire on _____ (date of expiry of CMC)
- c) The cost of Annual Comprehensive Maintenance Contract (CMC) which includes preventive maintenance, labour and spares, after satisfactory completion of Warranty period may be quoted for next 7 years as contained in the above referred contract on yearly basis for complete equipment.
- d) There will be 96% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with financial penalty and to extend CMC period by double the downtime period.
- e) During CMC period, the supplier shall visit at each consignee's site for preventive maintenance including testing and calibration as per the manufacturer's service/ technical/ operational manual. The supplier shall visit each consignee site as recommended in the manufacturer's manual, but at least once in 4 months commencing from the date of the successful completion of warranty period for preventive maintenance of the goods.
- f) All software updates should be provided free of cost during CMC.
- g) The bank guarantee valid till _____ [(fill the date) 2 months after expiry of entire CMC period] for an amount of Rs. _____ [(fill amount) equivalent to 2.5 % of the cost of equipment as per contract] shall be furnished in the prescribed format given in Section XV of the TE document, along with the signed copy of Annual CMC within a period of 21

(twenty one) days of issue of Annual CMC failing which the proceeds of Performance Security shall be payable to the Tender Inviting Authority/Ordering Authority.

- h) If there is any lapse in the performance of the CMC as per contract, the proceeds Annual CMC bank guarantee for an amount of Rs. _____ (equivalent to 2.5 % of the cost of the equipment as per contract) shall be payable to the Consignee.
- i) **Payment terms:** The payment of Annual CMC will be made against the bills raised to the consignee by the supplier on six monthly basis after satisfactory completion of said period, duly certified by the HOD concerned. The payment will be made in Indian Rupees.
- j) **Paying authority:** _____ (name of the authorised official of Tender Inviting Authority / Ordering Authority)

(Signature, name and address
of Tender Inviting Authority's authorised official)
For and on behalf of _____

Received and accepted this contract

(Signature, name and address of the supplier's executive
duly authorised to sign on behalf of the supplier)

For and on behalf of _____

(Name and address of the supplier)

(Seal of the supplier)

Date: _____

Place: _____

SECTION – XVI
CONSIGNEE RECEIPT CERTIFICATE

(To be given by consignee’s authorized representative or by duly authorised person of Ordering Authority/TIA)

The following store (s) has/have been received in good condition:

- 1) Contract No. & date : _____
- 2) Supplier’s Name : _____
- 3) Consignee’s Name & Address with telephone No. & Fax No. : _____
- 4) Name of the item supplied : _____
- 5) Quantity Supplied : _____
- 6) Date of Receipt by the Consignee : _____
- 7) Name and designation of Authorized Representative of Consignee : _____
- 8) Signature of Authorized Representative of Consignee with date : _____
- 9) Seal of the Consignee : _____

Copy to:

No:

1. MPPHSCL – cgmt.mpphscl@gmail.com
2. CDAC cell at MPPHSCL– dvdmsmp@cdac.in

SECTION – XVII
Proforma of Final Acceptance Certificate by the Consignee

No _____

Date _____

To

M/s _____

Subject: Certificate of commissioning of equipment/plant.

01. This is to certify that the equipment(s)/plant(s) as detailed below has/have been received in good conditions along with all the standard and special accessories and a set of spares (subject to remarks in Para no.02) in accordance with the contract/technical specifications. The same has been installed and commissioned.

- (a) Contract No _____ dated _____
- (b) Description of the equipment(s)/plants: _____
- (c) Equipment(s)/ plant(s) nos.: _____
- (d) Quantity: _____
- (e) Bill of Loading/Air Way Bill/Railway Receipt/ Goods Consignment Note
no _____ dated _____
- (f) Name of the vessel/Transporters: _____
- (g) Name of the Consignee: _____
- (h) Date of commissioning and proving test: _____

c. Details of accessories/spares not yet supplied and recoveries to be made on that account.

Sl. No.	Description of Item	Quantity	Amount to be recovered
---------	---------------------	----------	------------------------

- a. The proving test has been done to our entire satisfaction and operators have been trained to operate the equipment(s)/plant(s).
- b. The supplier has successfully demonstrated the working of the equipment.
- c. The supplier has provided training to the operating staff
- d. The supplier has also provided Standard operating Procedure for operational guidelines, precautions, limitations including preliminary maintenance instructions

e. The supplier has fulfilled its contractual obligations satisfactorily ##

OR

d. The supplier has failed to fulfil its contractual obligations with regard to the following:

- a. He has not adhered to the time schedule specified in the contract in dispatching the documents/drawings pursuant to 'Technical Specifications'.
- b. He has not supervised the commissioning of the equipment(s)/plant(s) in time, i.e. within the period specified in the contract from date of intimation by the Tender Inviting Authority/Ordering Authority in respect of the installation of the equipment(s)/plant(s).
- c. The supplier, as specified in the contract, has not done training of personnel.

Signature

Name

Designation with stamp

Explanatory notes for filling up the certificate:

- a. He has adhered to the time schedule specified in the contract in dispatching the documents/drawings pursuant to 'Technical Specification'.**
- b. He has supervised the commissioning of the equipment(s)/plant(s) in time, i.e. within the time specified in the contract from date of intimation by the Tender Inviting Authority/Ordering Authority in respect of the installation of the equipment(s)/plant(s).**
- c. Training of personnel has been done by the supplier as specified in the contract**
- d. In the event of documents/drawings having not been supplied or installation and commissioning of the equipment(s)/plant(s) having been delayed on account of the supplier, the extent of delay should always be mentioned in clear terms.**

Copy to:

No:

1. MPPHSCL – cgmt.mpphscl@gmail.com
2. CDAC cell at MPPHSCL– dvdmsmp@cdac.in

SECTION – XVIII
CHECK LIST FOR THE BIDDERS

Name of Bidder:

Name of Manufacturer/Indian Subsidiary/Direct Importer –As applicable:

Sl No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
1. a.	Have you enclosed EMD of required amount for the quoted schedule(s)?			
b.	EMD furnished in the form of Bank Guarantee, has it been furnished as per Section XIII?			
c.	Bank Guarantee furnished is validity for up to 180 days from Techno Commercial Tender Opening date as per clause 19 of GIT?			
2. a.	Have you enclosed duly filled Tender Form as per format in Section X?			
b.	Have you enclosed Power of Attorney in favour of the signatory?			
3. a.	Have you enclosed clause-by-clause technical compliance statement for the quoted goods vis-à-vis the Technical specifications?			
b.	In case of Technical deviations in the compliance statement, have you identified and marked the deviations?			
c.	Have you uploaded quoted equipment catalogue/brochure indicating equipment's technical specifications?			
4. a.	Have you submitted satisfactory performance certificate as per the Proforma for performance statement in Sec. IX of Tender Document with last three year details in respect of all orders?			

SI No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
b.	Have you submitted copy of the order(s) and end user certificate?			
6.	Have you kept validity of 120 days from the Techno Commercial Tender Opening date as per the TE document?			
7.	Have you furnished Income Tax Account No. as allotted by the Income Tax Department of Government of India?			
8.	Have you intimated the name and full address of your Banker (s) along with your Account Number			
9.	Have you fully accepted payment terms as per TE document?			
10.	Have you fully accepted delivery period as per TE document?			
11.	Have you accepted conditions stipulated in GCC Clause 15?			
12.	Have you submitted the certificate of incorporation?			
13.	Have you accepted the warranty and CMC as per TE document?			
14.	Have you accepted terms and conditions of TE document?			
15.	Have you furnished documents establishing your eligibility & qualification criteria as per Tender Documents?			
16.	Have you furnished Annual Report (Balance Sheet and Profit & Loss Account) for last three years prior to the date of Tender opening?			
17.	Have you submitted Bidder Information Form details along with turnover and production capacity of manufacturer?			

SI No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
18	Have you provided standard specifications of all consumables in sufficient details to run the machine as per clause GCC 12.1 (a)?			

N.B.

1. All pages of the Tender should be page numbered and indexed.
2. The Bidder may go through the checklist and ensure that all the documents/confirmations listed above are enclosed in the tender and no column is left blank. If any column is not applicable, it may be filled up as NA.
2. It is the responsibility of tendered to go through the TE document to ensure furnishing all required documents in addition to above, if any.

(Signature with date)

(Full name, designation & address of the person duly authorised sign on behalf of the Bidder)

For and on behalf of

(Name, address and stamp of the tendering firm)

(242 page tender document)

MPPHSCL
1,Arera hills, behind Tilhan sangh building, Bhopal, 462011
Format for Installation

No: _____ <Place>, Dated _____

To _____

1. Ordering authority name.....

Sub: Installation of equipment:.....

Purchase order No/date:

Your invoice no/Date:

Dear Sir,

The equipment mentioned below is installed successfully, equipment is working properly. Operational training provided to end user.

Sr No	Name of Equipment	Serial No	Model No	Date of installation

Name & signature of end user/Department Incharge:-

(Name, Signature & seal
of Head of institution)

(Name & signature of
service engineer)

This is to certify that the equipment has been supplied and installed in good condition and all accessories and spare parts along with the equipment have been handed over to stores vide stores stock register ledger folio no.... dated.....

The instrument along with log book has been successfully installed. In case of any complaint 24*7 kindly contact on phone no..... to our service center.

Signature, seal & complete add. With phone of the Ordering authority

Copy to:

No:

1. CDAC cell at MPPHSCL for entry in EMMS- dvdmsmp@cdac.in
2. Stores for records
3. Accounts for payments
4. MPPHSCL for master record - cgmt.mpphscl@gmail.com

(Name, Signature & seal
of Head of institution)

(Name & signature of
service engineer)

MANDATE FORM

01	Company Name	
02	Postal Address of the company with Telephone No., Fax No. and Mail I.D.	
03	Name of the Managing Director / Director / Manager Mobile No. / Phone No. E-mail I.D.	
04	Name and Designation of the authorized company official Mobile No. E-mail ID	

Date:

Company Seal

Signature

Place:

(Name of the person signing & designation)

01	Name of the Bank . Branch Name& address. Branch Code No. Branch Manager Mobile No. Branch Telephone no. Branch E-mail ID	
02	9 digit MICR code number of the bank and branch appearing on the MICR cheque issued by the bank.	
03	IFSC code of the Branch	
04	Type of Account (Current / Savings).	
05	Account Number (as appear in cheque book)	

(in lieu of the bank certificate to be obtained , please **attach the original cancelled cheque** issued by your bank for verification of the above particulars).

I /We hereby declare that the particulars given above are correct and complete. If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold Director Medical Services, (Incharge Procurement) on behalf of Govt. of Madhya Pradesh responsible. I have read the conditions of the tender/agreement entered and agree to discharge the responsibility expected of me / from the company as a bidder /successful bidder.

Date:

Company Seal

Signature

Place:

(Name of the person signing & designation)

CERTIFIED THAT THE PARTICULARS FURNISHED ABOVE BY THE COMPANY ARE CORRECT AS PER OUR RECORDS.

Bank Seal with address.

Signature of the authorized
official of the bank.
