GLOBAL TENDER ENQUIRY DOCUMENT

FOR PURCHASE OF
COMMON MEDICAL EQUIPMENTS

UNDER PMSSY SCHEME
FOR

GOVT OF INDIA

MINISTRY OF HEALTH & FAMILY WELFARE

HLL/PCD/PMSSY/19/09 – 10

BY

HLL Lifecare Limited

(A GOVERNMENT OF INDIA ENTERPRISE)
Procurement & Consultancy Services Division
B-12, Sector-59,
Noida-201 301
PHONE: 0120-4324572
FAX: 0120-4324573
URL: www.lifecarehll.com
Email: pcd@lifecarehll.com

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NOTICE INVITING TENDERS (NIT)
For Global Tender from
HLL Lifecare Limited
(A GOVERNMENT OF INDIA ENTERPRISE)
Procurement & Consultancy Services Division
B-12, Sector-59, Noida-201 301
URL: www.lifecarehll.com
Email: pcd@lifecarehll.com
PHONE: 0120-4324572
FOR
GOVT OF INDIA
MINISTRY OF HEALTH & FAMILY WELFARE

Tender Enquiry No.: HLL/PCD/PMSSY/19/09-10 **Dated 22.12.2009**

NOTICE INVITING TENDERS (NIT)

(1) Procurement & Consultancy Services Division of HLL Lifecare Limited, for and on behalf of Govt. of India, Ministry of Health & Family Welfare, Directorate General of Health Services invites sealed tenders, from eligible and qualified tenderers for supply of following medical equipments for Civil Hospital / BJ Medical College, Ahmedabad; Bangalore Medical College and Research Institute; Grant Medical College and Sir J.J. Group of Hospitals; Govt. Medical College, Jammu; Medical College and Hospitals, Kolkata; Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow; Rajendra Institute of Medical Sciences, Ranchi; Govt. Medical College, Srinagar; Sri Venkateshwara Institute of Medical Sciences, Tirupati; Medical College Thiruvananthapuram & VIMS - Institute of Medical Sciences, Varanasi under PMSSY:

Sl. #	Equipment Name	Total Quantity	EMD Amount
1	ACT Machine	11	44000
2	Anaerobic Workstation	2	48000
3	Automated Cell counter(5 Part Differential)	9	216000
4	Automated Electrophoresis System with scanner /Densitometer	4	40000
5	Electrophoresis System (Vertical & Horzontal with western Bolt)	2	4000
6	Automated ImmunoStainer	3	42000
7	Automated knife sharpner	4	24000
8	Automatic PD Cycler	4	48000
9	Automatic ESR Analyzer	4	32000
10	Automatic Tissue Processor	10	50000
11	Binocular Microscope	74	59200
12	Biological safety Cabinet Class – IIA	7	28000

Sl. #	Equipment Name	Total Quantity	EMD Amount
13	Biological safety Cabinet Class – IIB	2	8000
14	Blood Cell separator Apheresis Machine	1	50000
15	Blood Donor Couch	13	130000
16	CRRT	2	40000
17	Enzyme Amplified Chemiluminescence Immunoassay Analyzer	4	200000
18	Colour Doppler with 2D echo with TEE probe and adult and paediatric probes	3	120000
19	Cryostat	2	20000
20	Portable Colour Doppler System	16	384000
21	Deep Freezer (-20 deg C) Low Volume	5	15000
22	Deep Freezer (-20 deg C) High Volume	1	3000
23	Deep Freezer (-40 deg C)	4	16000
24	Deep Freezer (-80 deg C)	7	70000
25	Dental Chair (Basic)	50	300000
26	Dental Chair (Medium)	50	400000
27	Dental Chair (High End)	52	728000
28	Digital Radiography – Fluoroscopy System – 800mA	4	1200000
29	Radiography Unit – 500mA	1	58000
30	Video Enteroscope (Double Balloon)	1	60000
31	32 Channel Digital EEG System for Neurology	4	160000
32	Elisa Reader Low End	2	12000
33	High End Elisa Reader With Washer	3	30000
34	Fully Automatic, Walk-away High end ELISA / Immunoassay Analyzer	6	216000
35	Electra Shock Wave Lithotripsy (ESWL) High End	4	720000
36	Electro Surgical Generator with argon beam Coagulation	3	60000
37	ETO Sterilizers	9	360000
38	Fully Automated System for Blood Grouping/ Cross Matching / Antibody Typing	5	180000
39	Fully Automatic Random Access Clinical Chemistry Analyzer with ISE Module	2	120000
40	Uretero – Renoscope	1	20000
41	Haemo Dialysis Machine	20	240000
42	Dialysis Chair	14	84000
43	Ultrasonic Surgical Unit	13	520000
44	Heart Lung Machine	4	560000
45	HPLC System High End	7	280000
46	Hot air Oven	2	2000
47	ICU Bed Advance Model	30	120000
48	ICU Bed – Basic Model	76	152000
49	Volumetric Infusion Pump	47	47000
50	Intra Aortic Balloon Pump High End	13	468000
51	Ion Selective Electrolyte Analyzer	1	12000
52	Laminar Air Flow (Class – I)	25	1000000
53	Lyophiliser	1	10000
54	Mobile ICCU Van	3	210000
55	Mobile X-Ray unit High End	3	96000

Sl. #	Equipment Name	Total Quantity	EMD Amount
56	Flexible Cysto – Nephroscope (High End)	8	80000
57	OT Light with LED Technology	15	300000
58	OT Table	54	1080000
59	Operation Table Hydraulic	33	330000
60	OT Table for Urology	4	72000
61	Paediatric Bronchoscope	3	30000
62	Paediatric laproscopy set with accessories	3	90000
63	High Definition Laparoscopic System	1	50000
64	Paediatric Cystoscopy / Resectoscope	6	120000
65	Plasma Sterlizer	8	800000
66	Platelet Agitator with Incubator – (Medium Volume)	3	22500
67	Platelet Agitator with Incubator – (Large Volume)	1	10000
68	Platelet Aggregometer	1	12000
69	Pre Vacuum High Pressure Jacketed Horizontal Steam sterilizer	2	8000
70	Refridgerated Centrifuge (High Volume)	5	180000
71	Fully Automatic Motorized Rotary Microtome	12	24000
72	Sleep Lab Advanced	1	20000
73	Sternal Saw Electric	5	30000
74	Ten Headed Research Microscope	1	20000
75	Video Thoracoscopy	3	30000
76	Microscope	1	2000
77	Trinocular Microscope	18	360000
78	Ultrasonic Aspirator for Microneurosurgery	5	250000
79	Urodynamic System Six Channel (Low End)	2	80000
80	Ventilator Paediatrics / infant	19	380000
81	Ventilator – Non- Invasive	6	36000
82	Ventilator Neonatal	13	156000
83	Whole Body Dual Energy X-Ray/Digital bone densitometry machine (DEXA)	1	180000
84	Computerised Radiography	1	90000

(2) **Tender No.: HLL/PCD/PMSSY/19/09 – 10**

Sl. No.	Description	Schedule
i.	Dates of sale of tender enquiry documents	22.12.2009 to 02.02.2010, 1600 hrs IST
ii.	Place of sale of Tender Enquiry Documents	HLL Lifecare Limited, (A Government of India Enterprise), Procurement & Consultancy Services Division, B-12, Sector-59, Noida -201 301
iii.	Cost of the Tender Enquiry Document	Rs. 5000/-
iv	Pre Tender Meeting Date & Time	02.01.2010, 1100 hrs IST
v	Pre Tender Meeting Venue	Same as 2 (ii)

Sl. No.	Description	Schedule
vi.	Closing date & time for receipt of Tender	05.02.2010, 1200 hrs IST
vii.	Time and date of opening of Techno – Commercial tenders	05.02.2010, 1230 hrs IST
viii	Venue of Opening of Techno Commercial Tender	Same as 2 (ii)

3. Interested tenderers may obtain further information about this requirement from the above office selling the documents. Tender Enquiry Documents may be purchased on payment of non-refundable fee of Rs 5000/- per set in the form of account payee Demand Draft/Pay Order/Cashier's Cheque/Banker's Cheque, drawn on a scheduled bank in India, in favour of **"HLL Lifecare Limited"** payable at New Delhi**.**

4. If requested, the Tender Enquiry Documents will be mailed by Registered Post/Speed Post to the domestic tenderers and by international airmail to the foreign tenderers, for which extra expenditure per set will be Rs 100/- for domestic post and Rs 500/- for international airmail. The tenderer is to add the applicable postage cost in the non-refundable fee mentioned in Para 3 above.

5. Tenderer may also download the tender enquiry documents from the web site www.mohfw.nic.in or www.lifecarehll.com and submit its tender by utilizing the downloaded document, along with the required non-refundable fee as mentioned in Para 3 above.

6. All prospective tenderers may attend the Pre Tender meeting. The venue, date and time indicated in the Para 2 above.

7. Tenderers shall ensure that their tenders, complete in all respects, are dropped in the Tender Box located at **HLL Lifecare Limited, Procurement and Consultancy Division, B-12, Sector -59, Noida -201 301, Uttar Pradesh** on or before the closing date and time indicated in the Para 2 above, failing which the tenders will be treated as late and rejected.

8. In the event of any of the above mentioned dates being declared as a holiday / closed day for the purchase organisation, the tenders will be sold/received/opened on the next working day at the appointed time.

9. The Tender Enquiry Documents are not transferable.

For and on behalf of Ministry of Health & Family Welfare
Head (P&CD)
HLL Lifecare Limited,
Procurement and Consultancy Division
B-12, Sector -59, Noida -201301,
Uttar Pradesh

SECTION - II
GENERAL INSTRUCTIONS TO TENDERERS (GIT)
CONTENTS

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) "Purchaser" means the organization purchasing goods and services as incorporated in the Tender Enquiry document.
(ii) "Tender" means Bids / Quotation / Tender received from a Firm / Tenderer / Bidder.
(iii) "Tenderer" means Bidder/ the Individual or Firm submitting Bids / Quotation / Tender
(iii) "Supplier" means the individual or the firm supplying the goods and services as incorporated in the contract.
(iv) "Goods" means the articles, material, commodities, livestock, furniture, fixtures, raw material, spares, instruments, machinery, equipment, medical equipment, industrial plant etc. which the supplier is required to supply to the purchaser under the contract.
(v) "Services" means services allied and incidental to the supply of goods, such as transportation, installation, commissioning, provision of technical assistance, training, after sales service, maintenance service and other such obligations of the supplier covered under the contract.
(vi) "Earnest Money Deposit" (EMD) means Bid Security/ monetary or financial guarantee to be furnished by a tenderer along with its tender.
(vii) "Contract" means the written agreement entered into between the purchaser and/or consignee and the supplier, together with all the documents mentioned therein and including all attachments, annexure etc. therein.
(viii) "Performance Security" means monetary or financial guarantee to be furnished by the successful tenderer for due performance of the contract placed on it. Performance Security is also known as Security Deposit.
(ix) "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.
(x) "Specification" means the document/standard that prescribes the requirement with which goods or service has to conform.
(xi) "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.
(xii) "Day" means calendar day.

1.3 Abbreviations:

(i) "T E Document" means Tender Enquiry Document
(ii) "NIT" means Notice Inviting Tenders.
(iii) "GIT" means General Instructions to Tenderers
(iv) "SIT" means Special Instructions to Tenderers
(v) "GCC" means General Conditions of Contract
(vi) "SCC" means Special Conditions of Contract
(vii) "DGS&D" means Directorate General of Supplies and Disposals
(viii) "NSIC" means National Small Industries Corporation
(ix) "PSU" means Public Sector Undertaking
(x) "CPSU" means Central Public Sector Undertaking
(xi) "LSI" means Large Scale Industry
(xii) "SSI" means Small Scale Industry
(xiii) "LC" means Letter of Credit
(xiv) "DP" means Delivery Period
(xv) "BG" means Bank Guarantee
(xvi) "ED" means Excise Duty
(xvii) "CD" means Custom Duty
(xviii) "VAT" means Value Added Tax
(xix) "CENVAT" means Central Value Added Tax
(xx) "CST" means Central Sales Tax
(xxi) "RR" means Railway Receipt
(xxii) "BL" means Bill of Lading
(xxiii) "FOB" means Free on Board
(xxiv) "FCA" means Free Carrier
(xxv) "FOR" means Free On Rail
(xxvi) "CIF" means Cost, Insurance and Freight
(xxvii) "CIP (Destinations)" means Carriage and Insurance Paid up to named port of destination. Additionally the Insurance (local transportation and storage) would be extended and borne by the Supplier from ware house to the consignee site for a period including 3 months beyond date of delivery.
(xxviii) "DDP" means Delivery Duty Paid named place of destination (consignee site)
(xxix) "INCOTERMS" means International Commercial Terms as on the date of Tender Opening
(xxx) "MOH&FW" means Ministry of Health & Family Welfare, Government of India
(xxxi) "Dte. GHS" means Directorate General and Health Services, MOH&FW.
(xxxii) "CMC" means Comprehensive maintenance Contract (labour, spare and preventive maintenance)
(xxxiii) "RT" means Re-Tender.

2. Introduction

2.1 The Purchaser has issued these TE documents for purchase 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 Tenderers") provides the relevant information as well as instructions to assist the prospective tenderers in preparation and submission of tenders. It also includes the mode and procedure to be adopted by the purchaser for receipt and opening as well as scrutiny and evaluation of tenders and subsequent placement of contract.

2.3 The tenderers 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 purchaser, the tenderer should read and examine all the terms, conditions, instructions, checklist etc. contained in the TE documents. Failure to provide and/or comply with the required information, instructions etc. incorporated in these TE 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 purchaser/consignee.

4. Language of Tender

4.1 The tender submitted by the tenderer and all subsequent correspondence and documents relating to the tender exchanged between the tenderer and the purchaser, shall be written in the English language, unless otherwise specified in the Tender Enquiry. However, the language of any printed literature furnished by the tenderer in connection with its tender may be written in any other language provided the same is accompanied by an English translation and, for purposes of interpretation of the tender, the English translation shall prevail**.**

4.2 The tender submitted by the tenderer and all subsequent correspondence and documents relating to the tender exchanged between the tenderer and the purchaser, may also be written in the 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 Tenderers

5.1 This invitation for tenders is open to all suppliers 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 tenderer 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 for subsequent processing the same. The purchaser 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 Tenderers (GIT)
- Section III – Special Instructions to Tenderers (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 – Quality Control Requirements
- Section IX – Qualification Criteria
- Section X – Tender Form
- Section XI – Price Schedules
- Section XII – Questionnaire
- Section XIII – Bank Guarantee Form for EMD
- Section XIV – Manufacturer's Authorisation Form
- Section XV – Bank Guarantee Form for Performance Security/CMC Security
- Section XVI – Contract Forms A & B
- Section XVII – Proforma of Consignee Receipt Certificate
- Section XVIII – Proforma of Final Acceptance Certificate by the consignee
- Section XIX – Instructions from Ministry of Shipping/ Surface Transport (Annexure 1 & 2)
- Section XX – Check List for the Tenderers
- Section XXI – Consignee List

8.2 The relevant details of the required goods and services, the terms, 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 tenderers are expected to examine all such details etc to proceed further.

9. Amendments to TE documents

9.1 At any time prior to the deadline for submission of tenders, the purchaser may, for any reason deemed fit by it, modify the TE documents by issuing suitable amendment(s) to it.

9.2 Such an amendment will be notified in writing by registered/speed post or by fax/telex/e-mail, followed by copy of the same by registered post to all prospective tenderers, which have received the TE documents and will be binding on them.

9.3 In order to provide reasonable time to the prospective tenderers to take necessary action in preparing their tenders as per the amendment, the purchaser 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 TE documents

10.1 A tenderer requiring any clarification or elucidation on any issue of the TE documents may take up the same with the purchaser in writing. The purchaser will respond in writing to such request provided the same is received by the purchaser not later than fifteen days (unless otherwise specified in the SIT) prior to the prescribed date of submission of tender.

C. PREPARATION OF TENDERS

11. Documents Comprising the Tender

11.1 The **Two Tender System**, i.e. "Techno – Commercial Tender" and "Price Tender" prepared by the tenderer shall comprise the following:

A) <u>Techno – Commercial Tender (Un priced Tender)</u>

i) Earnest money furnished in accordance with GIT clause 19.1 alternatively, documentary evidence as per GIT clause 19.2 for claiming exemption from payment of earnest money.
ii) Tender Form as per Section X (without indicating any prices).
iii) Documentary evidence, as necessary in terms of clauses 5 and 17 establishing that the tenderer is eligible to submit the tender and, also, qualified to perform the contract if its tender is accepted.
iv) Tenderer/Agent who quotes for goods manufactured by other manufacturer shall furnish Manufacturer's Authorisation Form.
v) Power of Attorney in favour of signatory of TE documents and signatory of Manufacturer's Authorisation 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 tenderer conform to the requirement of the TE documents.
vii) Performance Statement as per section IX along with relevant copies of orders and end users' satisfaction certificate.
viii) Price Schedule(s) as per Section XI filled up with all the details including Make, Model etc. of the goods offered with prices blank (without indicating any prices).
ix) Certificate of Incorporation in the country of origin.
x) Checklist as per Section XX.

B) <u>Price Tender:</u>

The information given at clause no. 11.1 A) ii) & viii) above should be reproduced with the prices indicated.

N.B.

1. All pages of the Tender should be page numbered and indexed.
2. It is the responsibility of tenderer to go through the TE document to ensure furnishing all required documents in addition to above, if any.

11.2 The authorized signatory of the tenderer must sign the tender duly stamped at appropriate places and initial all the remaining 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.

11.4 Tender sent by fax/telex/cable/electronically shall be ignored.

12. Tender currencies

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

12.2 For imported goods if supplied directly from abroad, prices shall be quoted in any freely convertible currency say US Dollar, Euro, GBP or Yen. As regards price(s) for allied services, if any required with the goods, the same shall be quoted in Indian Rupees only if such services are to be performed /undertaken in India. Commission for Indian Agent, if any and if payable shall be indicated in the space provided for in the price schedule and will be payable in Indian Rupees only.

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

13 Tender Prices

13.1 The Tenderer 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 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 tenderer, same should be clarified as "NA" by the tenderer.

13.2 If there is more than one schedule in the List of Requirements, the tenderer has the option to submit its quotation for any one or more schedules and, also, to offer special discount for combined schedules. However, while quoting for a schedule, the tenderer shall quote for the complete requirement of goods and services as specified in that particular schedule.

13.3 The quoted prices for goods offered from within India and that for goods offered from abroad are to be indicated separately in the applicable Price Schedules attached under Section XI.

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

13.4.1 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 ware house 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.

13.4.2 For goods offered from abroad, the prices in the corresponding price schedule shall be entered separately in the following manner:

a) the price of goods quoted FOB/FCA port of shipment, as indicated in the List of Requirements and Price Schedule;

b) Deleted

c) the price of goods quoted CIP (name port of destination) in India as indicated in the List of Requirements, Price Schedule and Consignee List;

d) Deleted

e) the charges for Insurance (local transportation and storage) would be extended and borne by the Supplier from ware house to the consignee site for a period including 3 months beyond date of delivery. Other local costs and Incidental costs, as specified in the List of Requirements and Price Schedule;

f) the charges for Incidental Services, as in the List of Requirements and Price Schedule;

g) the prices of Turnkey (if any), as mentioned in List of Requirements, Technical Specification and Price Schedule; and

h) 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 Tenderer 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) If reimbursement of excise duty is intended as extra over the quoted prices, the supplier must specifically say so also indicating the rate, quantum and nature of the duty applicable. In the absence of any such stipulation it will be presumed that the prices quoted are firm and final and no claim on account of excise duty will be entertained after the opening of tenders.

b) If a Tenderer chooses to quote a price inclusive of excise duty and also desires to be reimbursed for variation, if any, in the excise duty during the time of supply, the tenderer 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 13.5.2 (a) & (b) above, 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 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 tenderer 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 legally liable 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 purchaser.

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 contract placed by the purchaser are exempted from levy of any such duty or tax and, wherever necessary, obtain the exemption certificate from the 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 purchaser to enable the purchaser reimburse the supplier and take other necessary action in the matter.

13.5.5 Customs Duty:

The Purchaser will pay the Customs duty wherever applicable.

13.6 For transportation of imported goods offered from abroad, relevant instructions as incorporated under GCC Clause 10 shall be followed.

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

13.8 Unless otherwise specifically indicated in this TE document, the terms FCA, FOB, FAS, CIF, CIP, DDP etc. for imported goods offered from abroad, shall be governed by the rules & regulations prescribed in the current edition of INCOTERMS, published by the International Chamber of Commerce, Paris

13.9 The need for indication of all such price components by the tenderers, as required in this clause (viz., 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 tenderer on any of the terms offered.

14. Indian Agent

14.1 If a foreign tenderer has engaged an agent in India in connection with its tender, the foreign tenderer, in addition to indicating Indian agent's commission, if any, in a manner described under GIT sub clause 12.2 above, shall also furnish the following information:

a) The complete name and address of the Indian Agent and its permanent income tax account number as allotted by the Indian Income Tax authority.
b) The details of the services to be rendered by the agent for the subject requirement.

c) Details of Service outlets in India, nearest to the consignee(s), to render services during Warranty and CMC period.

15. Firm Price

15.1 Unless otherwise specified in the SIT, prices quoted by the tenderer 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.

16.2 However the Tenderers can quote alternate models meeting the tender specifications of same manufacturer with single EMD.

17 Documents Establishing Tenderer's Eligibility and Qualifications

17.1 Pursuant to GIT clause 11, the tenderer 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) in case the tenderer offers to supply goods, which are manufactured by some other firm, the tenderer has been duly authorised by the goods manufacturer to quote for and supply the goods to the purchaser. The tenderer shall submit the manufacturer's authorization letter to this effect as per the standard form provided under Section XIV in this document.

b) the tenderer has the required financial, technical and production capability necessary to perform the contract and, further, it meets the qualification criteria incorporated in the Section IX in these documents.

c) in case the tenderer is not doing business in India, it is duly represented by an agent stationed in India fully equipped and able to carry out the required contractual functions and duties of the supplier including after sale service, maintenance & repair etc. of the goods in question, stocking of spare parts and fast moving components and other obligations, if any, specified in the conditions of contract and/or technical specifications.

d) in case the tenderer is an Indian agent/authorized representative quoting on behalf of a foreign manufacturer for the **restricted item**, the Indian agent/authorized representative is already enlisted under the Compulsory Enlistment Scheme of Ministry of Finance, Govt. of India, operated through Directorate General of Supplies & Disposals (DGS&D), New Delhi.

18. Documents establishing Good's Conformity to TE document.

18.1 The tenderer 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 purchaser in the TE documents. For this purpose the tenderer shall also provide a clause-by-clause commentary on the technical specifications and other technical details incorporated by

the purchaser in the TE documents 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 purchaser and that offered by the tenderer, the tenderer shall list out the same in a chart form without ambiguity and provide the same along with its tender.

18.3 If a tenderer furnishes wrong and/or misguiding 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 purchaser in this regard.

19. Earnest Money Deposit (EMD)

19.1 Pursuant to GIT clauses 8.1 and 11.1(d) the tenderer shall furnish along with its tender, earnest money for amount as shown in the List of Requirements. The earnest money is required to protect the purchaser against the risk of the tenderer's unwarranted conduct as amplified under sub-clause 19.7 below.

19.2 The tenderers who are currently registered and, also, will continue to remain registered during the tender validity period with Directorate General of Supplies & Disposals or with National Small Industries Corporation, New Delhi for the specific goods as per tender enquiry specification shall be eligible for exemption from EMD. Vague stipulations in the Registration Certificate such as "to customers' specification" etc. will not be acceptable for exemption from furnishing of earnest money. In case the tenderer falls in these categories, it should furnish copy of its valid registration details (with DGS&D or NSIC, as the case may be).

19.3 The earnest money shall be denominated in Indian Rupees or equivalent currencies as per GIT clause 12.2. The earnest money shall be furnished in one of the following forms:

i) Account Payee Demand Draft
ii) Banker's cheque and
iii) Bank Guarantee

19.4 The demand draft or banker's cheque shall be drawn on any commercial bank in India or country of the tenderer, in favour of the "HLL Lifecare Limited" payable at New Delhi. In case of bank guarantee, the same is to be provided from any commercial bank in India or country of the tenderer as per the format specified under Section XIII in these documents.

19.5 The earnest money shall be valid for a period of forty-five (45) days beyond the validity period of the tender. As validity period of Tender as per Clause 20 of GIT is 120 days, the EMD shall be valid for 165 days from Techno – Commercial Tender opening date.

19.6 Unsuccessful tenderers' 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 tenderer's earnest money will be returned without any interest, after receipt of performance security from that tenderer.

19.7 Earnest Money is required to protect the purchaser against the risk of the Tenderer's conduct, which would warrant the forfeiture of the EMD. Earnest money of a tenderer will be forfeited, if the tenderer 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 purchaser. The successful

tenderer's earnest money will be forfeited without prejudice to other rights of Purchaser if it fails to furnish the required performance security within the specified period.

19.8 In the case of Bank Guarantee furnished from banks outside India (i.e. foreign Banks), it should be authenticated and countersigned by any nationalised bank in India by way of back-to-back counter guarantee.

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 tender opening prescribed in the TE document. Any tender valid for a shorter period shall be treated as unresponsive and rejected.

20.2 In exceptional cases, the tenderers may be requested by the purchaser to extend the validity of their tenders up to a specified period. Such request(s) and responses thereto shall be conveyed by surface mail or by fax/ telex/cable followed by surface mail. The tenderers, 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 tenderer, 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 purchaser, the tender validity shall automatically be extended up to the next working day.

21. Signing and Sealing of Tender

21.1 The tenderers shall submit their tenders as per the instructions contained in GIT Clause 11.

21.2 Unless otherwise mentioned in the SIT, a tenderer shall submit three copies of its tender marking them as "Original", "Duplicate" and "Triplicate". Duplicate & Triplicate tenders may contain all pages including Technical Literature/Catalogues as per in Original tenders.

21.3 The original and other copies of the tender shall either be typed or written in indelible ink and the same shall be signed by the tenderer or by a person(s) who has been duly authorized to bind the tenderer to the contract. The letter of authorization shall be by a written power of attorney, which shall also be furnished along with the tender.

21.4 All the copies of the tender shall be duly signed at the appropriate places as indicated in the TE documents and all other pages of the tender including printed literature, if any shall be initialled by the same person(s) signing the tender. The tender shall not contain any erasure or overwriting, except as necessary to correct any error made by the tenderer and, if there is any such correction; the same shall be initialled by the person(s) signing the tender.

21.5 The tenderer is to seal the original and each copy of the tender in separate envelopes, duly marking the same as "Original", "Duplicate", "Triplicate" and so on and writing the address of the purchaser and the tender reference number on the envelopes. The sentence "NOT TO BE OPENED" before _____ (The tenderer is to put the date & time of tender opening) are to be written on these envelopes. The inner envelopes are then to be put in a bigger outer envelope, which will also be duly sealed, marked etc. as above. If the outer envelope is not sealed and marked properly as above, the purchaser

will not assume any responsibility for its misplacement, premature opening, late opening etc.

21.6 TE document seeks quotation following **two Tender System**, in two parts. First part will be known as **'Techno - Commercial Tender'**, and the second part **'Price Tender'** as specified in clause 11 of GIT. Tenderer shall seal **'Techno - Commercial Tender'** and **'Price Tender'** separately and covers will be suitably super scribed. Both these sealed covers shall be put in a bigger cover and sealed and procedure prescribed in Paras 21.1 to 21.5 followed.

D. SUBMISSION OF TENDERS

22. Submission of Tenders

22.1 Unless otherwise specified, the tenderers are to deposit the tenders in the tender box kept for this purpose at **HLL Lifecare Limited, Procurement and Consultancy Division, B-12, Sector -59, Noida -201301, Uttar Pradesh**. In case of bulky tender, which can not be put into tender box, the same shall be submitted by the tenderer by hand to **Head (P&CD)** or his nominee, **HLL Lifecare Limited, Procurement and Consultancy Division, B-12, Sector -59, Noida -201301, Uttar Pradesh**. The officer receiving the tender will give the tenderer an official receipt duly signed with date and time.

22.2 The tenderers must ensure that they deposit their tenders not later than the closing time and date specified for submission of tenders. It is the responsibility of the tenderer to ensure that their Tenders whether sent by post or by courier or by person, are dropped in the Tender Box by the specified clearing date and time. In the event of the specified date for submission of tender falls on / is subsequently declared a holiday or closed day for the purchaser, the tenders will be received up to the appointed time on the next working day.

23. Late Tender

23.1 A tender, which is received after the specified date and time for receipt of tenders will be treated as "late" tender and will be ignored.

24. Alteration and Withdrawal of Tender

24.1 The tenderer, after submitting its tender, is permitted to alter / modify its tender so long as such alterations / modifications are received duly signed, sealed and marked like the original tender, within the deadline for submission of tenders. Alterations / modifications to tenders received after the prescribed deadline will not be considered.

24.2 No tender should be withdrawn after the deadline for submission of tender and before expiry of the tender validity period. If a tenderer withdraws the tender during this period, it will result in forfeiture of the earnest money furnished by the tenderer in its tender.

E. TENDER OPENING

25. Opening of Tenders

25.1 The purchaser will open the tenders 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 purchaser, the tenders will be opened at the appointed time and place on the next working day.

25.2 Authorized representatives of the tenderers, who have submitted tenders on time may attend the tender opening provided they bring with them letters of authority from the corresponding tenderers.

The tender opening official(s) will prepare a list of the representatives attending the tender opening. The list will contain the representatives' names & signatures and corresponding tenderers' names and addresses.

25.3 Two - Tender system as mentioned in Para 21.6 above will be as follows. The **Techno - Commercial Tenders** are to be opened in the first instance, at the prescribed time and date as indicated in NIT. These Tenders shall be scrutinized and evaluated by the competent committee/ authority with reference to parameters prescribed in the TE document. During the Techno - Commercial Tender opening, the tender opening official(s) will read the salient features of the tenders 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). Thereafter, in the second stage, the Price Tenders of only the Techno - Commercially acceptable offers (as decided in the first stage) shall be opened for further scrutiny and evaluation on a date notified after the evaluation of the Techno – Commercial tender. The prices, special discount if any of the goods offered etc., as deemed fit by tender opening official(s) will be read out.

F. SCRUTINY AND EVALUATION OF TENDERS

26. Basic Principle

26.1 Tenders will be evaluated on the basis of the terms & conditions already incorporated in the TE document, based on which tenders have been received and the terms, conditions etc. mentioned by the tenderers in their tenders. No new condition will be brought in while scrutinizing and evaluating the tenders.

27. Preliminary Scrutiny of Tenders

27.1 The Purchaser 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 evaluation of Price Tenders, pursuant to GIT Clause 34, the Purchaser 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 Purchaser'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 Purchaser and cannot subsequently be made responsive by the Tenderer by correction of the nonconformity.

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 TE document. The tenders, which do not the 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 enclosed
(ii) Tender is unsigned.
(iii) Tender validity is shorter than the required period.
(iv) Required EMD (Amount, validity etc.)/ exemption documents have not been provided.
(v) Tenderer has quoted for goods manufactured by other manufacturer(s) without the required Manufacturer's Authorisation Form as per Section XIV.
(vi) Tenderer has not agreed to give the required performance security.
(vii) Goods offered are not meeting the tender enquiry specification.
(viii) Tenderer 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.
(ix) Poor/ unsatisfactory past performance.
(x) Tenderers who stand deregistered/banned/blacklisted by any Govt. Authorities.
(xi) Tenderer is not eligible as per GIT Clauses 5.1 & 17.1.
(xii) Tenderer has not quoted for the entire quantity as specified in the List of Requirements in the quoted schedule.

28. Minor Infirmity/Irregularity/Non-Conformity

28.1 If during the preliminary examination, the purchaser find any minor informality and/or irregularity and/or non-conformity in a tender, the purchaser 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 tenderers. Wherever necessary, the purchaser will convey its observation on such 'minor' issues to the tenderer by registered/speed post etc. asking the tenderer to respond by a specified date. If the tenderer 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 tenderer, 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 purchaser feels that the tenderer 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 purchaser, there is any such arithmetical discrepancy in a tender, the same will be suitably conveyed to the tenderer by registered / speed post. If the tenderer does not agree to the observation of the purchaser, the tender is liable to be ignored.

30. Discrepancy between original and copies of Tender

30.1 In case any discrepancy is observed between the text etc. of the original copy and that in the other copies of the same tender set, the text etc. of the original copy shall prevail. Here also, the purchaser will convey its observation suitably to the tenderer by register / speed post and, if the tenderer does not accept the purchaser's observation, that tender will be liable to be ignored.

31. Qualification Criteria

31.1 Tenders of the tenderers, 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 tenderers to quote their prices in different currencies, all such quoted prices of the responsive tenderers will be converted to a single currency viz., Indian Rupees for the purpose of equitable comparison and evaluation, as per the exchange rates established by the Reserve Bank of India for similar transactions, as on the date of 'Price Tender' opening.

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. However, as already mentioned in GIT sub clause 13.2, the tenderers have the option to quote for any one or more schedules and offer discounts for combined schedules. Such discounts wherever applicable will be taken into account to determine the lowest evaluated cost for the purchaser in deciding the successful tenderer for each schedule, subject to tenderer(s) being responsive.

34. Comparison of Tenders

34.1 Unless mentioned otherwise in Section – III – Special Instructions to Tenderers and Section – VI – List of Requirements, the comparison of the responsive tenders shall be carried out on Delivery Duty Paid (DDP) consignee site basis. The quoted turnkey prices and CMC prices will also be added for comparison/ranking purpose for evaluation.

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

35.1 Further to GIT Clause 34 above, the purchaser'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, Customs Duties, Service Tax, Works Contract Tax etc which will be contractually payable (to the tenderer), on the goods if a contract is awarded on the tenderer; and

ii) in the case of goods of foreign origin offered from abroad, customs duty and other similar import duties/taxes, which will be contractually payable (to the tenderer) on the goods if the contract is awarded on the tenderer.

35.2 The purchaser'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 Purchaser 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. Tenderer's capability to perform the contract

36.1 The purchaser, through the above process of tender scrutiny and tender evaluation will determine to its satisfaction whether the tenderer, 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, there is more than one schedule in the List of Requirements, then, such determination will be made separately for each schedule.

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

37. Contacting the Purchaser

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

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

G. AWARD OF CONTRACT

38. Purchaser's Right to accept any tender and to reject any or all tenders

38.1 The purchaser 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 tenderer or tenderers.

39. Award Criteria

39.1 Subject to GIT clause 38 above, the contract will be awarded to the lowest evaluated responsive tenderer decided by the purchaser in terms of GIT Clause 36.

40. Variation of Quantities at the Time of Award/ Currency of Contract

40.1 At the time of awarding the contract, the purchaser reserves the right to increase or decrease by up to twenty five (25) per cent, the quantity of goods and services mentioned in the schedule (s) in the "List of Requirements" (rounded of to next whole number)

without any change in the unit price and other terms & conditions quoted by the tenderer.

40.2 If the quantity has not been increased at the time of the awarding the contract, the purchaser reserves the right to increase by up to twenty five (25) per cent, the quantity of goods and services mentioned in the contract (rounded of to next whole number) without any change in the unit price and other terms & conditions mentioned in the contract, during the currency of the contract after one year from the Date of Notification of Award.

41. Notification of Award

41.1 Before expiry of the tender validity period, the purchaser will notify the successful tenderer(s) in writing, by registered / speed post or by fax/ telex/cable (to be confirmed by registered / speed post) that its tender for goods & services, which have been selected by the purchaser, 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 tenderer must furnish to the purchaser the required performance security within thirty days from the date of dispatch of this notification, failing which the EMD will 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.

42. Issue of Contract

42.1 Promptly after notification of award, the Purchaser/Consignee will mail the contract form (as per Section XVI) duly completed and signed, in duplicate, to the successful tenderer by registered / speed post.

42.2 Within twenty one days from the date of the contract, the successful tenderer shall return the original copy of the contract, duly signed and dated, to the Purchaser/Consignee by registered / speed post.

42.3 The Purchaser/Consignee reserves the right to issue the Notification of Award consignee wise.

43. Non-receipt of Performance Security and Contract by the Purchaser/Consignee

43.1 Failure of the successful tenderer in providing performance security and / or returning contract copy duly signed in terms of GIT clauses 41 and 42 above shall make the tenderer liable for forfeiture of its EMD and, also, for further actions by the Purchaser/Consignee against it as per the clause 24 of GCC – Termination of default.

44. Return of E M D

44.1 The earnest money of the successful tenderer and the unsuccessful tenderers 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 tenderer(s) receiving the contract(s) will be mentioned in the notice board/bulletin/web site of the purchaser.

46. Corrupt or Fraudulent Practices

46.1 It is required by all concerned namely the Consignee/Tenderers/Suppliers etc to observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the Purchaser: -

(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 Purchaser, and includes collusive practice among Tenderers (prior to or after Tender submission) designed to establish Tender prices at artificial non-competitive levels and to deprive the Purchaser of the benefits of free and open competition;

(b) will reject a proposal for award if it determines that the Tenderer recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;

(c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract by the purchaser if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing the contract.

SECTION - III
SPECIAL INSTRUCTIONS TO TENDERERS
(SIT)

Sl. No.	GIT Clause No.	Topic	SIT Provision	Page No.
A	1 to 7	Preamble	No Change	26
B	8 to 10	TE documents	No Change	26
C	11 to 21	Preparation of Tenders	No Change	26
D	22 to24	Submission of Tenders	No Change	26
E	25	Tender Opening	No Change	26
F	26 to 37	Scrutiny and Evaluation of Tenders	No Change	26
G	38 to 45	Award of Contract	No Change	26

SPECIAL INSTRUCTIONS TO TENDERERS
(SIT)

The following Special Instructions to Tenderers will apply for this purchase. These special instructions will modify/substitute/supplement the corresponding General Instructions to Tenderers (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 TE 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

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 purchaser'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 purchaser in connection therewith, to any person other than the person(s) employed by the supplier in the performance of the contract emanating from this TE 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 purchaser'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 purchaser and, if advised by the purchaser, all copies of all such documents shall be returned to the purchaser on completion of the supplier's performance and obligations under this contract.

3. Patent Rights

3.1 The supplier shall, at all times, indemnify and keep indemnified the purchaser, 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, trade marks etc. being made against the purchaser, the purchaser 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 purchaser.

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 thirty (30) days from date of the issue of notification of award by the Purchaser/Consignee, the supplier, shall furnish performance security to the Purchaser/Consignee for an amount equal to ten percent (10%) of the total value of the contract, valid up to sixty (60) days after the date of completion of all contractual

obligations by the supplier, including the warranty obligations, initially valid for a period of minimum 30 months from the date of Notification of Award

5.2 The Performance security shall be denominated in Indian Rupees or in the currency of the contract as detailed below:

a) It shall be in any one of the forms namely Account Payee Demand Draft or Fixed Deposit Receipt drawn from any Scheduled bank in India or Bank Guarantee issued by a Scheduled bank in India, in the prescribed form as provided in section XV of this document in favour of the Purchaser/Consignee. The validity of the Fixed Deposit receipt or 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 with out any quantifiable loss to the government including furnishing of consignee wise Bank Guarantee for CMC security as per Proforma in Section XV, the amount of the performance security is liable to be forfeited. The Administration Department 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 twenty-one (21) 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 supplier shall enter into Annual Comprehensive Maintenance Contract as per the 'Contract Form – B' in Section XVI with respective consignees, 3 (three) months prior to the completion of Warranty Period. The CMC will commence from the date of expiry of the Warranty Period.

5.6 Subject to GCC sub – clause 5.3 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 & after receipt of Consignee wise bank guarantee for CMC security in favour of Head of the Hospital/ Institute/ Medical College of the consignee as per the format in Section XV.

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 transhipment (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 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
d. country of origin of goods
e. consignee's name and full address and
f. supplier's name and address

8. Inspection, Testing and Quality Control

8.1 The purchaser and/or its nominated representative(s) will, without any extra cost to the purchaser, 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. The purchaser shall inform the supplier in advance, in writing, the purchaser'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 purchaser and/or its nominated representative(s).

8.2 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 purchaser's inspector at no charge to the purchaser.

8.3 If during such inspections and tests the contracted goods fail to conform to the required specifications and standards, the purchaser'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 purchaser and resubmit the same to the purchaser's inspector for conducting the inspections and tests again.

8.4 In case the contract stipulates pre-despatch inspection of the ordered goods at supplier's premises, the supplier shall put up the goods for such inspection to the purchaser's inspector well ahead of the contractual delivery period, so that the purchaser's inspector is able to complete the inspection within the contractual delivery period.

8.5 If the supplier tenders the goods to the purchaser'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 purchaser under the terms & conditions of the contract.

8.6 The purchaser'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 purchaser's inspector during pre-despatch inspection mentioned above.

8.7 Goods accepted by the purchaser/consignee and/or its inspector at initial inspection and in final inspection in terms of the contract shall in no way dilute purchaser'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.

8.8 Principal/ Foreign supplier shall also have the equipment inspected by recognised/ reputed agency like SGS, Lloyd or equivalent (acceptable to the purchaser) prior to despatch at the supplier's cost and furnish necessary certificate from the said agency in support of their claim.

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 imported goods offered from abroad:

The supplier shall not arrange part-shipments and/or transhipment without the express/prior written consent of the purchaser. The supplier is required under the contract to deliver the goods under CIP (Named port of destination) terms; the shipment shall be made by Indian flag vessel or by vessels belonging to the conference lines in which India is a member country through India's forwarding agents/coordinators. In case the forwarding agent/coordinators are unable to provide timely adequate space in Indian flag vessel or by vessels belonging to the conference lines, the supplier shall arrange shipment through any available vessel to adhere to the delivery schedule given in the contract.

In case of airlifting of imported goods offered from abroad, the same will be done only through the National Carrier i.e. Air India wherever applicable. In case the National Carrier is not available, any other airlines available for early delivery may be arranged.

10.2 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.

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 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. 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 the imported goods on CIP Named port of Destination Basis, the additional extended 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.

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 actuals will be reimbursed.

12. Spare parts

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

a) The spare parts as selected by the Purchaser/Consignee 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

b) In case the production of the spare parts is discontinued:

i) Sufficient advance notice to the Purchaser/Consignee before such discontinuation to provide adequate time to the purchaser to purchase the required spare parts etc., and

ii) Immediately following such discontinuation, providing the Purchaser/Consignee, free of cost, the designs, drawings, layouts and specifications of the spare parts, as and if requested by the Purchaser/Consignee.

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 Purchaser/Consignee promptly on receipt of order from the Purchaser/Consignee.

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.

i) Installation & commissioning, Supervision and Demonstration of the goods
ii) Providing required jigs and tools for assembly, minor civil works required for the completion of the installation.

iii) Training of Consignee's Doctors, Staff, operators etc. for operating and maintaining the goods
iv) 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 Purchaser/Consignee to enable the Purchaser/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 drill 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 purchaser, 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):

(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 XVII 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 nominated Inspection agency, if any.
(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

Within 24 hours of despatch, the supplier shall notify the purchaser, 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). Any delay or demurrage occurred during the customs clearance on account of the non-availability of technical support/ clarifications /documents from the supplier shall be borne by the supplier:

(i) Four copies of supplier's invoice showing contract number, goods description, quantity, unit price and total amount;
(ii) Original and four copies of the negotiable clean, on-board Bill of Lading/Airway bill, marked freight pre paid and four copies of non-negotiable Bill of Lading/Airway bill;
(iii) Four Copies of packing list identifying contents of each package;
(iv) Insurance Certificate as per GCC Clause 11.
(v) Manufacturer's/Supplier's warranty certificate;

(vi) Inspection Certificate for the despatched equipments issued by recognized/ reputed agency like SGS, Lloyd or equivalent (acceptable to the purchaser) prior to despatch
(vii) Manufacturer's own factory inspection report;
(viii) Certificate of origin
(ix) Port of Loading;
(x) Port of Discharge and
(xi) Expected date of arrival.

15. Warranty

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 purchaser 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 Purchaser'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

a. for 2 (two) years for all the listed equipments and
b. for 5 (Five) Years exclusively for items mentioned below:
    1. **MRI (Super Conducting Magnet) 1.5 Tesla**
    2. **1000mA X-Ray System**
    3. **Cath-Lab**
    4. **CT Scans**

followed by a CMC for a period of 5 (Five) Years for all the equipments 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 purchaser/CONSIGNEE in terms of the contract, unless specified otherwise in the SCC.

c. No conditional warranty like mishandling, manufacturing defects etc. will be acceptable.
d. Warranty as well as Comprehensive Maintenance contract will be inclusive of all accessories and Turnkey work and it will also cover the following:-
    - X-ray and CT tubes and high-tension cables.
    - Helium replacement
    - Any kind of motor.
    - Plastic & Glass Parts.
    - All kind of sensors including oxygen sensors.
    - All kind of coils, probes and transducers including ECG cable, BP transducers, SpO2 Probes, Ultrasound and Colour Doppler Transducers/ probes, BP cuffs, Defibrillator internal and external paddles, chart recorders, ventilator reusable patient circuits, servo humidifier with chamber, electrodes and probes for blood gas analyzer, MRI coils.
    - All kind of flat panel sensors and cassettes for DR & CR systems and patients handling trolleys etc
    - Printers and imagers including laser and thermal printers with all parts.

- UPS including the replacement of batteries.
- Air-conditioners

e. Replacement and repair will be under taken for the defective goods.
f. 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 Purchaser/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 8 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. The supplier shall take over the replaced parts/goods after providing their replacements and no claim, whatsoever shall lie on the purchaser 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 purchaser.

15.6 If the supplier, having been notified, fails to respond to take action to repair or replace the defect(s) within 8 hours on a 24(hrs) X 7 (days) X 365 (days) basis, the purchaser may proceed to take such remedial action(s) as deemed fit by the purchaser, at the risk and expense of the supplier and without prejudice to other contractual rights and remedies, which the purchaser 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 6 months commencing from the date of the installation for preventive maintenance of the goods

15.8 The Purchaser/Consignee reserve the rights to enter into Annual Comprehensive Maintenance Contract between Consignee and the Supplier for the period as mentioned in Section VII, Technical Specifications after the completion of warranty period.

15.9 The supplier along with its Indian Agent and the CMC provider shall ensure continued supply of the spare parts for the machines and equipments supplied by them to the purchaser for 10 years from the date of installation and handing over.

15.10 The Supplier along with its Indian Agent and the CMC Provider shall always accord most favoured client status to the Purchaser vis-à-vis its other Clients/Purchasers of its equipments/machines/goods etc. and shall always give the most competitive price for its machines/equipments supplied to the Purchaser/Consignee.

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 Purchaser's prior written permission.

17. Sub Contracts

17.1 The Supplier shall notify the Purchaser 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.

17.2 Sub contract shall be only for bought out items and sub-assemblies.

17.3 Sub contracts shall also comply with the provisions of GCC Clause 4 ("Country of Origin").

18. Modification of contract

18.1 If necessary, the purchaser 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 purchaser,
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 purchaser 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 Purchaser/Consignee, the supplier shall convey its views to the Purchaser/Consignee within twenty-one days from the date of the supplier's receipt of the Purchaser'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 purchaser.

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:

75 % payment of the contract price shall be paid on receipt of goods in good condition 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) Consignee Receipt Certificate as per Section XVII 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 nominated Inspection agency, if any.
(v) Insurance Certificate as per GCC Clause 11 and documents also to be submitted for payment of LC confirming that dispatch documents has already been sent to all concerned as per the contract within 24 hours;
(vi) Certificate of origin.

b) On Acceptance:

Balance 25 % payment would be made against 'Final Acceptance Certificate' as per Section XVIII of goods to be issued by the consignees subject to recoveries, if any, either on account of non-rectification of defects/deficiencies not attended by the Supplier or otherwise.

B) Payment for Imported Goods:

Payment for foreign currency portion shall be made in the currency as specified in the contract in the following manner:

a) On Shipment:

Seventy Five (75) % of the net CIP price (CIP price less Indian Agency commission) of the goods shipped shall be paid through irrevocable, non-transferable Letter of Credit (LC) opened in favour of the supplier in a bank in his country and upon submission of documents specified hereunder:

(i) Four copies of supplier's invoice showing contract number, goods description, quantity, unit price and total amount;
(ii) Original and four copies of the negotiable clean, on-board Bill of Lading/ Airway bill , marked freight pre paid and four copies of non-negotiable Bill of Lading/Airway bill;
(iii) Four Copies of packing list identifying contents of each package;
(iv) Insurance Certificate as per GCC Clause 11 and documents also to be submitted for payment of LC confirming that dispatch documents has already been sent to all concerned as per the contract within 24 hours;
(v) Manufacturer's/Supplier's warranty certificate;
(vi) Inspection certificate issued by the nominated inspection agency, if applicable as per contract;
(vii) Manufacturer's own factory inspection report and
(viii) Certificate of origin by the chamber of commerce of the concerned country;

(ix) Inspection Certificate for the despatched equipments issued by recognized/ reputed agency like SGS, Lloyd or equivalent (acceptable to the purchaser) prior to despatch.

(x) Certificate of origin

b) On Acceptance:

Balance payment of 25 % of net CIP price of goods would be made against 'Final Acceptance Certificate' as per Section XVIII to be issued by the consignees through irrevocable, non-transferable Letter of Credit (LC) opened in favour of the Foreign Principal in a bank in his country, subject to recoveries, if any.

c) Payment of Incidental Costs till consignee site & Incidental Services (including Installation & Commissioning, Supervision, Demonstration and Training) will be paid in Indian Rupees to the Indian Agent on proof of 100 % payment to the Foreign Principal.

d) Payment of Indian Agency Commission:

Indian Agency commission will be paid to the manufacturer's agent in the local currency for an amount in Indian rupees indicated in the relevant Price Schedule (as per prevailing rate of exchange ruling on the date of Contract) and shall not be subject to further escalation / exchange variation. Payment shall be paid in Indian Rupees to the Indian Agent on proof of 100 % payment to the Foreign Principal.

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 (as per prevailing rate of exchange ruling on the date of Contract) and shall not be subject to further escalation / exchange variation. Payment shall be made in Indian Rupees to the Indian Agent on proof of 100 % payment to the Foreign Principal.

D) Payment for Annual Comprehensive Maintenance Contract Charges:

The consignee will enter into CMC with the supplier at the rates as stipulated in the contract. The payment of CMC will be made on six monthly basis after satisfactory completion of said period, duly certified by the consignee on receipt of bank guarantee for an amount equivalent to 2.5 % of the cost of the equipment as per contract in the prescribed format given in Section XV valid till 2 months after expiry of entire CMC period.

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 Irrevocable & non – transferable LC shall be opened by the respective consignees. However, if the supplier requests specifically to open confirmed LC, the extra charges would be borne by the supplier. If LC is required to be extended and/or amended for reasons not attributable to the purchaser/consignee, the charges thereof shall be borne by the supplier.

21.5 The payment shall be made in the currency / currencies authorised in the contract.

21.6 The supplier shall send its claim for payment in writing, when contractually due, along with relevant documents etc., duly signed with date, to respective consignees.

21.7 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.

21.8 While claiming reimbursement of duties, taxes etc. (like sales tax, excise duty, custom duty) from the Purchaser/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 Purchaser/Consignee forthwith.

21.9 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 within six months 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 purchaser 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 within three months from the date of receipt of this balance payment.

22. Delay in the supplier's performance

22.1 The supplier shall deliver of the goods and perform the services under the contract within the time schedule specified by the Purchaser/Consignee 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 Purchaser/Consignee in writing about the same and its likely duration and make a request to the Purchaser/Consignee for extension of the delivery schedule accordingly. On receiving the supplier's communication, the Purchaser/Consignee 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, interalia contain the following conditions:

(a) The Purchaser/Consignee 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 Purchaser/Consignee 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 Purchaser/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 purchaser.

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 Purchaser/Consignee shall, without prejudice to other rights and remedies available to the Purchaser/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 Purchaser/Consignee may consider termination of the contract as per GCC 24.

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 Purchaser/Consignee , without prejudice to any other contractual rights and remedies available to it (the Purchaser/Consignee), 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 Purchaser/Consignee pursuant to GCC sub-clauses 22.3 and 22.4.

24.2 In the event of the Purchaser/Consignee terminates the contract in whole or in part, pursuant to GCC sub-clause 24.1 above, the Purchaser/Consignee may procure goods and/or services similar to those cancelled, with such terms and conditions and in such manner as it deems fit and the supplier shall be liable to the Purchaser/Consignee for the extra expenditure, if any, incurred by the Purchaser/Consignee for arranging such procurement.

24.3 Unless otherwise instructed by the Purchaser/Consignee, 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 purchaser 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 Purchaser/Consignee.

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 Purchaser/Consignee 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 Purchaser/Consignee in writing of such conditions and the cause thereof within twenty one days of occurrence of such event. Unless otherwise directed by the Purchaser/Consignee 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 Purchaser/Consignee is unable to fulfil its contractual commitment and responsibility, the Purchaser/Consignee will notify the

supplier accordingly and subsequent actions taken on similar lines described in above sub-paragraphs.

27. Termination for convenience

27.1 The Purchaser/Consignee reserves the right to terminate the contract, in whole or in part for its (Purchaser's/Consignee '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 Purchaser/Consignee. 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 Purchaser/Consignee following the contract terms, conditions and prices. For the remaining goods and services, the Purchaser/Consignee 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 Purchaser/Consignee 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 Purchaser/Consignee 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. In the case of a dispute or difference arising between the Purchaser/Consignee and a domestic Supplier relating to any matter arising out of or connected with the contract, such dispute or difference shall be referred to the sole arbitration of an officer in the Ministry

of Law and Justice, appointed to be the arbitrator by the Director General (Health Services). The award of the arbitrator shall be final and binding on the parties to the contract subject to the provision that the Arbitrator shall give reasoned award in case the value of claim in reference exceeds Rupees One lakhs (Rs. 1,00,000/-)

30.3 Venue of Arbitration: The venue of arbitration shall be the place from where the contract has been issued, i.e., New Delhi, 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 Purchaser 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 Purchaser/Consignee /the Government of India of any material change would impact on performance of its obligations under this Contract.

32.4 Each member/constituent of the Supplier/its Indian Agent/CMC Provider, in case of consortium shall be **jointly and severally liable** to and responsible for all obligations towards the Purchaser/Consignee/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 Purchaser/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 Purchaser/Consignee/Government of India 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.

SECTION - VI
LIST OF REQUIREMENTS

Part I

Sl. #	Equipment Name	Consignee	Department	Quantity	Total Quantity	EMD Amount
1	ACT Machine	GMC	CTVS	2	11	44000
		JMC	Cardiology	2		
		JMC	CTVS	1		
		SMC	Nephrology	1		
		SMC	Cardiology	2		
		SVIMS	CTVS	2		
		SVIMS	Nephrology	1		
2	Anaerobic Workstation	SMC	Paraclinical	1	2	48000
		TMC	Microbiology	1		
3	Automated Cell counter(5 Part Differential)	GMC	Pathology	2	9	216000
		JMC	Blood bank,Transfusion medicine, Hematology	1		
		JMC	Hematology	1		
		SMC	Paraclinical	1		
		SMC	Blood bank,Transfusion medicine, Hematology	1		
		SVIMS	Pathology	1		
		BJMC	M&J Inst. Ophthal	1		
		TMC	Pathology	1		
4	Automated Electrophoresis System with scanner /Densitometer	SMC	Paraclinical	1	4	40000
		SVIMS	Biochemistry	1		
		BJMC	Biochemistry	1		
		TMC	Biochemistry	1		
5	Electrophoresis System (Vertical & Horzontal with western Bolt)	BJMC	Pathology	1	2	4000
		SMC	Paraclinical	1		
6	Automated ImmunoStainer	SMC	Pathology	1	3	42000
		SMC	Pathology	1		
		BJMC	Pathology	1		
7	Automated knife sharpner	GMC	Anatomy	1	4	24000
		JMC	Paraclinical	2		
		SMC	Paraclinical	1		
8	Automatic PD Cycler	JMC	Nephrology (+ Dialysis)	1	4	48000
		SMC	Nephrology	1		
		SVIMS	Nephrology	1		
		SVIMS	Nephrology	1		
9	Automatic ESR Analyzer	SMC	Paraclinical	1	4	32000
		BJMC	Pathology	2		
		TMC	Pathology	1		
10	Automatic tissue processor	GMC	Pathology	4	10	50000
		JMC	Paraclinical	2		
		SVIMS	Pathology	1		
		BJMC	Dental College & Hospital	1		
		BJMC	Pathology	1		
		TMC	Pathology	1		
11	Binocular Microscope	SMC	Paraclinical	7	74	59200
		SMC	Blood bank,Transfusion medicine, Hematology	1		
		SMC	Hematology	7		

Sl. #	Equipment Name	Consignee	Department	Quantity	Total Quantity	EMD Amount
		BJMC	Microbiology	4		
		BJMC	Pathology	55		
12	Biological Safety Cabinet Class-II A	GMC	Microbiology	2	7	28000
		SMC	Paraclinical	2		
		BJMC	Microbiology	3		
13	Biological safety cabinet class - II B	TMC	Microbiology	2	2	8000
14	Blood Cell Separator Apheresis Machine	JMC	Blood bank,Transfusion medicine, Hematology	1	1	50000
15	Blood Donor Couch	JMC	Blood bank,Transfusion medicine, Hematology	6	13	130000
		SMC	Blood bank,Transfusion medicine, Hematology	2		
		TMC	Transfusion Medicine	5		
16	CRRT	SMC	Nephrology	1	2	40000
		SVIMS	Nephrology	1		
17	ENZYME AMPLIFIED CHEMILUMINESCENCE IMMUNOASSAY ANALYZER	GMC	Biochemistry	1	4	200000
		BJMC	Biochemistry	1		
		BJMC	Research Lab	1		
		TMC	Biochemistry	1		
18	Colour Doppler with 2-D echo with TEE probe and adult and paediatric probes.	GMC	CTVS	1	3	120000
		BJMC	Medicine	1		
		RIMS	Anesthesiology	1		
19	Cryostat	SMC	Paraclinical	1	2	20000
		JMC	Paraclinical	1		
20	PORTABLE COLOUR DOPPLER SYSTEM	GMC	Anesthesiology	1	16	384000
		GMC	Emerg Tr WD	1		
		GMC	Med CCU	1		
		GMC	OBGY	1		
		GMC	Paediatrics	2		
		GMC	Urology	1		
		JMC	Nephrology (+ Dialysis)	1		
		SMC	Gastroentrology	1		
		SMC	Nephrology	1		
		SMC	G.B.Pant Hospital	1		
		SVIMS	Medicine	1		
		SVIMS	Emergency	1		
		BJMC	Urology	1		
		BJMC	Obs & Gynec	1		
		RIMS	Trauma Centre	1		
21	Deep FREEZER (-20° C) Low Volume	SVIMS	Biochemistry	5	5	15000
22	Deep Freezer (-20 deg C) High Volume	TMC	Microbiology	1	1	3000

Sl. #	Equipment Name	Consignee	Department	Quantity	Total Quantity	EMD Amount
23	Deep Freezer (-40 deg C)	JMC	Blood bank,Transfusion medicine, Hematology	1	4	16000
		SMC	Hematology	1		
		SMC	Paraclinical	2		
24	Deep Freezer (-80 deg C)	JMC	Blood bank,Transfusion medicine, Hematology	2	7	70000
		SMC	Paraclinical	1		
		SMC	Blood bank,Transfusion medicine, Hematology	2		
		SVIMS	Biochemistry	1		
		TMC	Microbiology	1		
25	Dental chairs (Basic)	BJMC	Dental College & Hospital	50	50	300000
26	Dental chairs (Medium)	BJMC	Dental College & Hospital	50	50	400000
27	Dental chairs (High End)	BJMC	Dental College & Hospital	50	52	728000
		GMC	Dental JJ	2		
28	DIGITAL RADIOGRAPHY-FLUOROSCOPY SYSTEM -800mA	GMC	Radiology	1	4	1200000
		SMC	Radiology	1		
		SVIMS	Emergency	1		
		RIMS	Radiology	1		
29	RADIOGRAPHY UNIT- 500mA	GMC	Radiology	1	1	58000
30	Video Enteroscope (Double balloon)	SMC	Gastroentrology	1	1	60000
31	32 CHANNEL DIGITAL EEG SYSTEM FOR NEUROLOGY	JMC	NEUROLOGY	2	4	160000
		SMC	Neurology	1		
		SVIMS	Emergency	1		
32	Elisa Reader Low End	SVIMS	Biochemistry	1	2	12000
		GMC	Biochemistry	1		
33	High End ELISA reader with washer	SMC	Blood bank,Transfusion medicine, Hematology	1	3	30000
		SMC	Hematology	1		
		BJMC	Stem Cell Lab	1		
34	Fully Automatic, Walk-away High end ELISA / Immunoassay Analyzer	JMC		1	6	216000
		SMC	Paraclinical	1		
		SVIMS	Biochemistry	1		
		BJMC	Biochemistry	1		
		BJMC	Microbiology	1		
		TMC	Microbiology	1		
35	Electra Shock Wave Lithotripsy(ESWL)High End	GMC	Urology	1	4	720000
		JMC	Urology (+ Renal Transplant)	1		
		RIMS	Urology	1		
		TMC	Genito Urinary Surgery	1		
36	Electro surgical Generator with	JMC	Urology	1	3	60000
		SMC	Urology	1		

Sl. #	Equipment Name	Consignee	Department	Quantity	Total Quantity	EMD Amount
	argon beam Coagulation	SMC	Gastroentrology	1		
37	ETO Sterilizers	GMC	G Surg OT	1	9	360000
		GMC	CSSD	1		
		GMC	CTVS	1		
		JMC	Cardiology	1		
		SMC	Cardiology	1		
		BJMC	CSSD	3		
		RIMS	Neuro Surgery	1		
38	Fully Automated System for Blood Grouping/ Cross Matching/ Antibody Typing	SMC	Blood bank,Transfusion medicine, Hematology	1	5	180000
		SMC	Hematology	1		
		SVIMS	Blood Bank	1		
		SVIMS	Blood Bank	1		
		SVIMS	Blood Bank	1		
39	Fully Automatic Random Access Clinical Chemistry Analyzer with ISE Module	SMC	Paraclinical	1	2	120000
		SVIMS	Biochemistry	1		
40	Uretero-Renoscope	SVIMS	Urology	1	1	20000
41	Haemo Dialysis Machine	GMC	Nephrology	2	20	240000
		JMC	Nephrology (+ Dialysis)	5		
		JMC	Nephrology (+ Dialysis)	1		
		JMC	Nephrology (+ Dialysis)	1		
		SVIMS	Nephrology	6		
		TMC	Nephrology	5		
42	Dialysis Chair	SMC	Nephrology	10	14	84000
		SMC	Nephrology	2		
		JMC	Nephrology (+ Dialysis)	2		
43	Ultrasonic Surgical Unit	GMC	CTVS	1	13	520000
		GMC	ENT	1		
		GMC	G Surg OT	1		
		GMC	OBGY	1		
		GMC	St.George's	1		
		GMC	Urology	1		
		JMC	Urology (+ Renal Transplant)	1		
		SMC	General Surgery & OT	1		
		SVIMS	General Surgery	1		
		BJMC	Urology	1		
		RIMS	Neuro Surgery	1		
		RIMS	Surgery Department SOT	2		
44	Heart Lung Machine	GMC	CTVS	1	4	560000
		JMC	CTVS	1		
		BJMC	Cardiology	1		

Sl. #	Equipment Name	Consignee	Department	Quantity	Total Quantity	EMD Amount
		RIMS	Cardiology & CTVS	1		
45	HPLC System High End	GMC	Pharmac	1	7	280000
		GMC	Pathology	1		
		SMC	Paraclinical	1		
		SVIMS	Biochemistry	1		
		BJMC	Research Lab	1		
		BJMC	Pharmacology	1		
		BJMC	Biochemistry	1		
46	Hot Air Oven	SMC	Blood bank,Transfusion medicine, Hematology	2	2	2000
47	ICU bed Advance model	JMC	Cardiology	20	30	120000
		SMC	Anesthesiology	10		
48	ICU Beds - Basic Model.	JMC	CTVS	6	76	152000
		SMC	Emergency	30		
		SMC	Cardiology & CTVS	25		
		RIMS	Cardiology & CTVS	15		
49	Volumetric Infusion Pump	GMC	Paediatric Surgery	5	47	47000
		GMC	Paediatrics	10		
		JMC	Anesthesiology	4		
		SMC	Cardiology	10		
		SMC	Anesthesiology	3		
		BJMC	ICU	10		
		BJMC	Trauma & Casuailty	5		
50	Intra Aortic balloon pump High end	GMC	CTVS	2	13	468000
		JMC	Cardiology	1		
		JMC	CTVS	1		
		SMC	CTVS	1		
		SMC	Cardiology	2		
		SVIMS	Emergency	1		
		SVIMS	Cardiology	1		
		BJMC	Cardiology	2		
		RIMS	Cardiology & CTVS	2		
51	Ion Selective Electrolyte Analyzer	TMC	Biochemistry	1	1	12000
52	Laminar Air Flow (Class - I)	GMC	Anatomy	1	25	1000000
		GMC	Microbiology	1		
		GMC	Neuro Surgery	3		
		GMC	St.George's	1		
		JMC	ORTHOPEDIC	1		
		SMC	Blood bank,Transfusion medicine, Hematology	1		
		BJMC	Orthopedics	2		
		BJMC	Paraplagia Hospital	1		
		BJMC	Trauma & Casuailty	2		

Sl. #	Equipment Name	Consignee	Department	Quantity	Total Quantity	EMD Amount
		BJMC	Genetics Lab	1		
		BJMC	Neuro Surgery	1		
		RIMS	Burn Unit & Plastic Surgery	2		
		RIMS	Surgery COT	4		
		RIMS	Surgery Department SOT	4		
53	Lyophiliser	GMC	Microbiology	1	1	10000
54	Mobile ICCU Van	JMC	Cardiology	2	3	210000
		BJMC	Cardiology	1		
55	Mobile X- Ray unit High end	JMC	Radiology	3	3	96000
56	Flexible Cysto - Nephroscope (High End)	JMC	UROLOGY (+RENAL TRANSPLANT)	2	8	80000
		JMC	UROLOGY (+RENAL TRANSPLANT)	1		
		SMC	Percutaneous Nephronthotomy	2		
		SMC	Percutaneous Nephronthotomy	1		
		BJMC	Urology	2		
57	OT Light with LED Technology	GMC	G Surg OT	2	15	300000
		GMC	St.George's	1		
		GMC	Urology	2		
		SMC	General Surgery & OT	2		
		RIMS	Orthopaedics	2		
		RIMS	Cardiology & CTVS	2		
		RIMS	Surgery Department SOT	3		
		RIMS	Urology	1		
58	OT Table	GMC	CTVS	2	54	1080000
		SMC		8		
		GMC	Emerg OT	1		
		GMC	G Surg OT	2		
		GMC	Ortho	2		
		GMC	Urology	1		
		SVIMS	Anesthesiology	7		
		SVIMS	Cardiology	3		
		SVIMS	Emergency	3		
		BJMC	Pain Clinic	1		
		BJMC	Paediatric Surgery	2		
		RIMS	Burn Unit & Plastic Surgery	1		
		RIMS	Cardiology & CTVS	2		
		JMC	NEUROSURGERY	2		
		JMC	CTVS	2		
		BJMC	Surgery	6		
		RIMS	Emergency	2		
		RIMS	Surgery COT	2		
		RIMS	Surgery Department SOT	2		
		RIMS	Orthopaedics	2		
		RIMS	Paediatric Surgery	1		

Sl. #	Equipment Name	Consignee	Department	Quantity	Total Quantity	EMD Amount
59	Operation Table Hydraulic	JMC	Surgery	4	33	330000
		BJMC	Urology	2		
		BJMC	Burn Unit & Plastic Surgery	2		
		BJMC	M&J Inst. Ophthal	4		
		BJMC	Orthopedics	2		
		BJMC	ENT	2		
		BJMC	Trauma & Casuailty	3		
		GMC	Emerg OT	2		
		GMC	ENT	2		
		GMC	G Surg OT	2		
		GMC	Paediatric Surgery	1		
		GMC	Plastic Surgery	3		
		GMC	St.George's	4		
60	OT Table for Urology	RIMS	Urology	1	4	72000
		JMC	UROLOGY (+ RENAL TRANSPLANT)	1		
		SVIMS	Urology	1		
		SVIMS	Urology	1		
61	Paediatric Bronchoscope	SMC	Paediatric Surgery	1	3	30000
		BJMC	Paediatric Surgery	1		
		RIMS	Paediatric Surgery	1		
62	Paediatric laproscopy set with accessories	GMC	Paediatric Surgery	1	3	90000
		SMC	Paediatric Surgery	1		
		RIMS	Paediatric Surgery	1		
63	High Definition Laparoscopic System	SMC	General Surgery & OT	1	1	50000
64	Paediatric cystoscopy /RESECTOSCOPE	JMC	Paediatric Surgery	2	6	120000
		SMC	Paediatric Surgery	1		
		BJMC	Urology	1		
		BJMC	Paediatric Surgery	1		
		RIMS	Paediatric Surgery	1		
65	Plasma Sterlizer	GMC	St.George's	1	8	800000
		GMC	CSSD	1		
		SMC	Cardiology & CTVS	1		
		SVIMS	Anesthesiology	1		
		BJMC	Cardiology	1		
		BJMC	CSSD	2		
		BJMC	Paraplagia Hospital	1		
66	Platelet Agitator with Incubator - (Medium Volume)	JMC	Blood bank,Transfusion medicine, Hematology	1	3	22500
		SMC	Blood bank,Transfusion medicine, Hematology	2		
67	Platelet agitator with incubator (large volume)	TMC	Transfusion Medicine	1	1	10000

Sl. #	Equipment Name	Consignee	Department	Quantity	Total Quantity	EMD Amount
68	Platelet Aggregometer	SVIMS	Pathology	1	1	12000
69	Pre Vacuum High Pressure Jacketed Horizontal Steam Sterilizer	TMC	Microbiology	2	2	8000
70	Refridgerated Centrifuge(High Volume)	GMC	Pharmac	2	5	180000
		JMC	Blood bank,Transfusion medicine, Hematology	2		
		SMC	Blood bank,Transfusion medicine, Hematology	1		
71	FULLY AUTOMATIC MOTORIZED ROTARY MICROTOME	GMC	Pathology	2	12	24000
		BJMC	Pathology	2		
		GMC	Anatomy	1		
		JMC	Paraclinical	1		
		BJMC	Dental College & Hospital	1		
		SMC	Paraclinical	2		
		TMC	Pathology	1		
		JMC	Paraclinical	2		
72	Sleep Lab Advanced	SMC	General Medicine	1	1	20000
73	Sternal Saw Electric	GMC	CTVS	2	5	30000
		RIMS	Cardiology & CTVS	3		
74	Ten Headed Research Microscope	SMC	Paraclinical	1	1	20000
75	Video Thoracoscopy	JMC	CTVS	1	3	30000
		SMC	CTVS	1		
		BJMC	Surgery	1		
76	Microscope	SMC	Paraclinical	1	1	2000
77	Trinocular Microscope	JMC	Paraclinical	1	18	360000
		SMC	Paraclinical	1		
		BJMC	Pathology	16		
78	ULTRASONIC ASPIRATOR FOR MICRONEUROSURGERY	GMC	Neuro Surgery	1	5	250000
		JMC	Neuro Surgery	1		
		JMC	Surgical Oncology	1		
		SMC	Neursurgical	1		
		BJMC	Neuro Surgery	1		
79	Urodynamic system Six Channel(Low End)	GMC	Paediatric Surgery	1	2	80000
		JMC	Urology (+ Renal Transplant)	1		
80	Ventilator Paediatrics/infant	GMC	CTVS	1	19	380000
		GMC	Paediatric Surgery	1		
		GMC	Paediatrics	6		
		SVIMS	CTVS	2		
		BJMC	Paediatric Surgery	1		

Sl. #	Equipment Name	Consignee	Department	Quantity	Total Quantity	EMD Amount
		BJMC	Paediatrics	4		
		JMC	Paediatric Surgery	4		
81	Ventilator – Non-Invasive	JMC	Cardiology & CTVS	2	6	36000
		SMC	Cardiology & CTVS	2		
		SMC	Chest Medicine	1		
		BJMC	T.B. & Chest	1		
82	Ventilator Neonatal	GMC	Paediatrics	8	13	156000
		SMC	Paediatrics	3		
		BJMC	Paediatrics	2		
83	Whole Body Dual Energy X-Ray/Digital bone densitometry machine(DEXA)	GMC	Radiology	1	1	180000
84	COMPUTERISED RADIOGRAPHY	GMC	St.George's	1	1	90000

Legend:
BJMC – Civil Hospitals / BJ Medical College, Ahmedabad; **BMC -** Bangalore Medical College & Research Institute; **GMC** – Grant Medical College & Sir J.J. Group of Hospitals; **JMC –** Govt. Medical College, Jammu; **KMC -** Medical College & Hospitals, Kolkata; **SGPGIMS -** Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow; **RIMS -** RIMS, Ranchi; **SMC –** Govt. Medical College, Srinagar; **SVIMS -** Sri Venkateshwara Institute of Medical Sciences, Tirupati; **TMC -** Medical College Thiruvananthapuram; **VIMS -** Institute of Medical Sciences, Varanasi.

Part II: Required Delivery Schedule:

a) For Indigenous goods or for imported goods if supplied from India:
90 days from date of Notification of Award to delivery at consignee site. The date of delivery will be the date of delivery at consignee site (Tenderers may quote earliest delivery period).

b) For Imported goods directly from foreign:
90 days from the date of opening of L/C except CT 64 and Cath-Lab for which the delivery period will be 180 days. The date of delivery will be the date of Bill of Lading/Airway bill. (Tenderers may quote the earliest delivery period).

Note: The Purchaser/Consignee reserves the right to extend the delivery period up to one year from the date of NOA at its discretion.

Part III: Scope of Incidental Services:
Installation & 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 per details in Technical Specification.

Part VI:
Required Terms of Delivery and Destination.

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

The foreign tenderers are required to quote their rates on CIP Named Port of Destination Basis giving break up of the price as per the Proforma prescribed in the Price Schedule. Purchaser will place the order on CIP Named Port of Destination basis.

The shipping arrangements shall be made in accordance with the instruction of Ministry of Shipping & Transport, New Delhi, India as detailed in Annexure 1 at Section XIX.
Insurance (local transportation and storage) would be extended and borne by the Supplier from ware house to the consignee site for a period including 3 months beyond date of delivery.

Destination/Consignee details are given in Section XXI

Section – VII
Technical Specifications

Note 1: Tenderer's attention is drawn to GIT clause 18 and GIT sub-clause 11.1(c). The tenderer 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 equipments for carrying out routine and preventive maintenance wherever asked for and should make sure that Electrical Safety Analyzer / Tester for Medical equipments 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 equipments. If the Electrical Safety Analyzer/Tester is not available they should provide a commitment to get the equipments 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: OPTIONAL ITEMS: Bidders are requested to quote for all the available options as asked in the bidding document with reasonable pricing. However the pricing for optional items will not be considered for price comparison for ranking purpose. If the firm has not quoted for any optional item (except the items of turnkey) their offer will be treated as TECHNICALLY RESPONSIVE if otherwise meeting the specification.

(P.T.O for Schedule wise Technical Specification)

Schedule No: 1
ACT Machine

ACT Machine (Activated Clotting Timer)

1 Description of Function

1.1 Activated Clotting Time (ACT) is a measure of the anticoagulation effects of heparin. The main use of this diagnostic test is in cardiac catheterization labs and open heart and vascular surgery, where they need to keep track and have specific measures of clotting times.

2 Operational Requirements

2.1 One button operation, easy to use

2.2 Portable system

3 Technical Specifications

3.1 ACT machine having at least one test well

3.2 2 point clot detection facility to get accurate results

3.3 Parameters- ACT

3.4 Shall use fresh blood at the bedside.

3.5 Shall require less than 3 cc of blood per sample

3.6 Digital Display on Screen of any size.

4 System Configuration Accessories, spares and consumables

4.1 System as specified-

4.2 ACT Tubes - 200 nos.

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 Thu unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of less than 70%

6 Power Supply

6.1 Should work on 180-270V AC as well as batteries. Mains adaptor to be supplied

7 Standards, Safety and Training

7.1 Should be FDA/CE or BIS approved product

7.2 Manufacturer/Supplier should have ISO certification for quality standards.

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied in English.

8.2 Certificate of calibration and inspection.

8.3 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

Schedule No: 2

Equipment Specifications for Anaerobic Workstation

1 Description of Function

1.1 An anaerobe can be described as bacteria that grow better in the absence rather than the presence of air. The workstation to grow these bacteria for clinical investigation is Anaerobic Workstation

2 Operational Requirements

2.1 Temperature and Humidity Controlled Anaerobic Incubator system is required.

2.2 Oxygen Free System

3 Technical Specifications

3.1 Construction material of the chamber: Durable, Non Corrosive Acrylic Resin Sheet to ensure better visibility & insulation.

3.2 Incubation Capacity:500 plates Incubation capacity Provision for up gradation to increase capacity up to 1000 plates

3.3 Options for minimum two separate gases or premixed anaerobic gas

3.4 Atmospheric conditioning system using Catalyst and Anotox.

3.5 Liquid anaerobic indicator.

3.6 Incubator Temp. Range: Ambient +5 to 70 deg C

3.7 Vacuum Pump should be available.

3.8 Temp. Uniformity: +/- 0.2C at 37 Degrees Celsius

3.9 Digital Display of Temperature, time, pressure and humidity should be available.

3.10 Output for Data Acquisition System; PC and Printer.

4 System Configuration Accessories, spares and consumables

4.1 System as specified-

5 Environmental factors

5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%

5.2 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug

6.2 Suitable voltage corrector/stabilizer

6.3 Resettable over current breaker shall be fitted for protection

6.4 Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.

7 Standards and Safety

7.1 Should be FDA or CE approved or ISI marked product

7.2 Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied

8.2 Certificate of calibration and inspection from factory.

8.3 List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
8.4 List of important spare parts and accessories with their part number and costing
8.5 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.
8.6 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue.

Schedule No: 3

CELL COUNTER
(5 PART DIFFERENTIAL AUTOMATED HAEMATOLOGY ANALYZER)

- Automated haematology analyzer should include 24 parameters including histogram for RBC, WBC and platelet.
- Should have impedance principle for counting and photometer for haemoglobin.
- It should read at least 60 samples per hour or more.
- Should have dual channel measurement.
- Double dilution chamber
- Sample volume less than 200 micro litres in whole blood and pre – dilute mode.
- It should have various types of discrete mode and real time random access analysis to save reagent consumption and analysis time.
- Sampling needle should have automatic wash from inside and outside.
- LCD / VGA Monitor with graphical user interface (GUI) for easy operation.
- Large illuminated colored VGA or LCD should display the result of all parameters and histogram together.
- Should have sample manual and capillary mode.
- Should have capacity to store at least 20000 numeric patient results and 5000 graphics.
- Should have inbuilt/External graphic printer.
- Should have RS232 serial and parallel port can be connected with LAN and laser printer.
- Should have a membrane keyboard for routine operations and maintenance with option to attach external key boar for patient demographic entry at instrument operation.
- Should have three dimensional technology or Flow cytometry for differential analysis to maximize resolution, specificity and efficiency.
- Should have extended analysis time for cytopenic sample. .
- Should be able to integrate with optional automated slide maker and stainer.
- Should have zero routine maintenance with automatic electronic aperture cleaning and back flush after each sample.
- Instrument should accept all types of vacutainer tubes.
- The instrument should have option for auto sampler, bar code reader.
- Reagent cost per cycle including start up and shutdown if 200 & 500 samples are processed at a time should be submitted separately in the financial bid.
- There should be automatic storage of calibration data and extensive quality control programme with LJ plot for at least 8 control lots and at least 25 runs per lot.

Basic common necessities:

- Input Voltage 230 volts 50 Hz as per Indian standard.
- Service manual and technical data with all necessary passwords without any obligation.
- Instruction and operational manuals without any obligation.
- UPS preferably sine wave based with maintenance free batteries with duration two hours.

Schedule No: 4

Automated Electrophoresis System with scanner /Densitometer

Required to carry out electrophoresis based special assays on patient samples for a super speciality hospital which charges the patients. This has to cater to the needs of a complete oncology and nephrology set up.

I. Automated electrophoresis system for hospital clinical laboratory,
Featuring

- Automated electrophoretic run , drying staining and de-staining .
- System machine should use Cellulose Acetate or Agarose strips as Matrix for Electrophoresis and separate strips and kits for Immunofixation.
- Should have two sample applicators made of special stainless steel.
- Automated control of voltage, time and current
- Gel temperature control with peltier effect
- Facility to separate serum proteins, haemoglobin, lipoproteins, CK, LDH & Alkaline phosphatase isoenzymes
- Facility for immunofixation
- Facility to store at least 30 application protocols
- Facility to run serum, urine & CSF samples without prior dilution or concentration
- Alarm for level sensing, timer and doors
- Samples for one gel should not exceed 10
- Equipment must not have any water sources or pumps.
- Migration Chamber should be monobloc with carbonium electrodes and should be able to give uniform distribution of current on the full strip.
- Should have multireagent (at least 7)independent tanks.
- Process Control System should be guided by electromagnetic heads with optical sensor built in the Head.

II. Densitometer (or) Gel scanner with the necessary accessories and software Either of these with the following features to be procured along with electrophoresis system

- Scanning & processing all gels including those specified above
- Facility to store the scanned image of the gel
- Facility for curve editing and entry of patient demographics
- Availability of quantification and quality control features
- Storage of patient data and results – up to a minimum of 10000 samples
- Facility to generate a comprehensive report containing patient demographics, scanned image of the gel, curve and quantification data

III Software up gradation to be provided free of cost up to Warranty and CMC period.
IV All necessary standard accessories like those required for sample application to be provided along with the instrument.
V Suitable PC with colour ink jet printer to be provided along with the equipment.
VI Online UPS suitable for the entire system with 30 minutes back up.
VII One set of standard spares
VIII Two kits of serum protein electrophoresis, one kit each of Lipoproteins, and isoenzymes of LDH and alkaline phosphatase to be provided as starter kits

Schedule No: 5

Equipment Specifications for Electrophoresis System (Vertical and Horizontal with western Blot)

1.1 Of the various types of electrophoresis, Other types, protein (or vertical) electrophoresis, utilizes apparatus for analyzing DNA, RNA and Proteins.

2 Operational Requirements
2.1 Complete system for rapid electrophoresis of proteins & nucleic acids

3 Vertical Gel apparatus :
3.1 Should be able to run two slab gels 10x8 cm approx. simultaneously
3.2 Complete Gel casting system for casting multiple gels
3.3 Power connector integral with safety lid
3.4 Silicon rubber gaskets
3.5 Supply at least 4 sets of 2mm thick notched and plain glass plates
3.6 Supply at least 4 sets of 1.0 mm spacers
3.7 Supply at least 4 Nos. of 1.0 mm thick comb for 8-24 samples

4 Horizontal Gel Apparatus
4.1 Gel tanks sizes 8x11 inches (midi gel apparatus)and 3x 6 inches (mini gel apparatus) with platinum electrodes and dams.
4.2 Complete Gel casting system for casting multiple gels
4.3 Power connector integral with safety lid
4.4 Supply at least 4 sets of gel casting trays
4.5 Supply at least 6 Nos. of 1.0 mm thick comb for 8-20 samples

5 Compatible DC Power supply
1. Compatible microprocessor based power supply to run at least 2 units at constant voltage or current with automatic cross over
2. Output range programmable,10-500V, 4-500 mA in 1 mA step, 100 W maximum
3. Single-unit increments in settings and read-outs for precision and reproducibility
4.Easy to read digital display
5.Ensure safety features for overload, sudden load change, short circuit protection etc and personal and environmental protection
6.Automatic recovery after power failure

6 Electro Blotter for transfer of proteins from acrylamide gel to nitrocellulose
6.1 Vertical Tank with safety lid and connecting leads.
6.2 Blotting pads with holders -2 Nos. compatible with the vertical gel apparatus.
4 System Configuration Accessories, spares and consumables
4.1 As specified
5 Environmental factors
5.1 Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS)
General Requirements of Safety for Electromagnetic Compatibility.
5.2 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
5.3 The unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of 80%.

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2 Resettable over current breaker shall be fitted for protection
6.3 Suitable Servo controlled Stabilizer/CVT
6.4 Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.

7 Standards and Safety

7.1 Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements
7.2 Should be FDA or CE or ISI approved product
7.3 Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied
8.2 Certificate of calibration and inspection from factory.
8.3 Log book with instruction for daily , weekly, monthly and quarterly maintenance checklist.
The job description of the hospital technician and company service engineer should be clearly spelt out
8.4 List of important spare parts and accessories with their part number and costing.
8.5 List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
8.6 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue.

Schedule No: 6

Automated Immuno stainer

1 Description of Function	
1.1	Immunostaining is a general term that applies to any use of an antibody-based method to detect a specific protein in a sample.
2 Operational Requirements	
2.1	The Autostainer should be an automated horizontal slide-processing system compatible with currently available reagents for staining formalin-fixed, paraffin-embedded tissues, frozen sections, cytospins, cell smears, and fine-needle aspirates
3 Technical Specifications	
3.1	The unit should consist of a slide processor, dedicated desktop computer, printer, and Labelling System.
3.2	The Autostainer should be a barcode-driven staining system with easy-to-use Windows-based software for pre-programmed protocols and customized programs.
3.3	Slide capacity: 1-45 glass slides (US and international sizes)
3.4	Reagent capacity: Up to 60+/-5 reagents (15 mL/reagent vial)
3.5	Reagent dispense volumes: 100, 150, 200, 400 and 600 µL
3.6	Reagent probe volume capacity: 100 µL minimum, 1.2 mL maximum(specification variation +/- 5%)
3.7	PC with 500 GB HDD, CD/DVD Writer, 2 GB RAM with Inkjet Colour Printer.
3.8	Software with windows OS with Operating Logic Designed to calculate the most time-efficient sequence to complete a programmed staining run Protocol Logic Flexible selection of steps including rinses. 30-35 protocol steps (including rinse steps). Idle Rinse-Buffer is applied to slides during a staining run to keep specimens wet when no reaction is occurring. Rinse Default Settings-Buffer rinse every 30-35 minutes prior to the start of a run, when delayed start is selected. Buffer rinse every 30-35 minutes during a staining run. Water rinse every 60-65 minutes after completion of run. Default settings for time and the amount of buffer dispensed can be changed Incubation Time: 2-5 minutes
4 System Configuration Accessories, spares and consumables	
4.1	System as specified-
5 Environmental factors	
5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
5.2	Thu unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of 80%.
6 Power Supply	
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	Reset-table/ over-current breaker shall be fitted for protection
6.3	UPS of suitable rating shall be supplied for minimum 1 hour backup for the entire system
7 Standards and Safety	

7.1	Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.
7.2	Should be compliant with IEC 61010-1:covering safety requirements for electrical equipment for measurement control and laboratory use.
7.3	Should be FDA or CE or ISI approved product
7.4	Comprehensive training for lab staff and support services till familiarity with the system.

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied
8.2	Certificate of calibration and inspection from factory.
8.3	Log book with instruction for daily , weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out
8.4	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
8.5	List of important spare parts and accessories with their part number and costing.
8.6	Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue.

Schedule No: 7

Automated Knife Sharpener

Automated Knife Sharpener

Specifications :
Automatic knife sharpeners with plates, knife holder which can accommodate all types of knife with facility to sharpen in both the direction, transparent hinged cover, adjustable timer 0-60 minutes, cord and plug with micro abrasive.

Additional Accessories required:
Honing plates – 5 Nos.
Universal knife holder – 1 no.
Abrasive paste 1 & 6 Micron – 5 nos. each

Requirements at installation: Installation chart with each machine

Schedule No: 8

Equipment Specifications for Automatic PD Cycler.

1 Description of Function

1.1 Automatic peritoneal dialysis (PD) Cycler is a system whereby cyclically peritoneal dialysis is done and is quite useful during sleeping hours.

2 Operational Requirements

2.1 Should be compact in size and easily portable

3 Technical Specifications

3.1 Should have built in heater for warming the Fill solution at body temperature

3.2 Should be able to measure fluid flow and volume without the use of weighing scales

3.3 Deleted

3.4 **System should accept preloaded cassettes and tunings on an organiser.**

3.5 Should be simple to use. Machine should calculate automatically the number of cycles and Dwell time per cycle once the patient enters the total therapy time, total volume and fill volume.

3.6 Should perform a self check before starting the treatment.

3.7 **deleted**

3.8 Should have a built in Therapy Log and Alarm Log for simplified troubleshooting.

3.9 The machine has a battery back up, up to 2 hours for remembering the status of the therapy and it resumes from the cycle from where it was left.

3.10 Therapy Parameters Limits and Increments:

1. **deleted**
2. Therapy Time: 10 min to 48 hours in increments of 10 mnt.
3. Fill Volume: 100-3,000 ml in increments of at least 100 ml or less
4. Last fill volume: 100-3,000 ml in increments of at least 100 ml or less.

3.11 Should be able to perform IPD also.

4 System Configuration Accessories, spares and consumables

4.1 System as specified-

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 - 50deg C and relative humidity of 15-90%

5.3 The unit shall be capable of operating continuously in ambient temperature of 10 - 40deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug

7 Standards, Safety and Training

7.1 Should be FDA/CE approved product

7.2 Manufacturer/Supplier should have ISO certification for quality standards.

7.3 Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450

7.4 Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied in English.

8.2 Certificate of calibration and inspection.

8.3 List of important spare parts and accessories with their part number and costing.

8.4 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

8.5 List of Equipments available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service/technical manual

Schedule No: 9

Equipment Specifications for Automatic ESR Analyzer

1 Description of Function

1.1 ESR (erythrocyte sedimentation rate) is a non-specific screening test for various diseases. This test measures the distance (in millimeters) that red blood cells settle in unclotted blood toward the bottom of a specially marked test tube.

2 Operational Requirements

2.1 Automated ESR with inbuilt mixing, and printing of results; Westergren principle for analysis is required.

3 Technical Specifications

3.1 The instrument should be compact table top and light weight.
3.2 Throughput greater than **50** samples per hour.
3.3 Facility for temperature correction.
3.4 Have infrared sensor for analysis
3.5 Sample volume must be less than **200** micro litres in capillary mode. Sample should be aspirated one at a time with automatically sensing of quantity and clot detection.
3.6 Capable to read ESR in the range of 1 mm / hr to 140mm / hr and provide 1 hr westergren results.
3.7 Safety feature with close cycle no touch with blood sample and waste collection at safety tank at the end of the cycle.
3.8 Should be compatible with standard anticoagulants ESR
3.90 The ESR-Analyzer should incorporate a quality control system for monitoring the laboratory's quality control program and data can be downloaded to a Laboratory Information System.
3.10 Compatible/Integrated Mixer and printer.
3.11 Compatible Barcode scanner.
3.12 RS 323C interface for communications with networked devices.

4 System Configuration Accessories, spares and consumables

4.1 System as specified-
4.2 Compatible Barcode Scanner.
4.3 Vacuum Tubes-1.2 ml(box of 100)- 100 boxes
4.4 Printer paper- 10 packs.

5 Environmental factors

5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
5.2 Thu unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of 80%.

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2 Reset table over current breaker shall be fitted for protection
6.3 Suitable voltage corrector/stabilizer

7 Standards and Safety

7.1 Should be FDA or CE or ISI approved product
7.2 Comprehensive training for lab staff and support services till familiarity with the system.

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied
8.2 Certificate of calibration and inspection from factory.
8.3 List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
8.4 List of important spare parts and accessories with their part number and costing
8.5 Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out
8.6 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of ORIGINALCATALOGUE.

Schedule No: 10

Equipment Specifications for Automatic Tissue Processor

1 Description of Function	
1.1	Tissues from the body taken for diagnosis of disease processes are processed by the tissue processor in the histology laboratory to process tissues prior to microtomy to produce microscopic slides that are viewed under the microscope by pathologists.
2 Operational Requirements	
2.1	Latest Model Fully automatic system carousel type with minimum 12 stations (10 reagents and 2 wax baths).
2.2	Computer controlled flow through tissue processor to automatically perform fixation, dehydration, clearing, and paraffin impregnation of tissue. Specimens should remain stationary during processing in a fully enclosed retort while processing reagents and molten paraffin are moved to and from the chamber in a programmed sequence.
3 Technical Specifications	
3.1	Metal / Polypropelene tissue baskets each with a capacity of160-200 cassettes to be met by either single or double baskets.
3.2	The tissue baskets should be such that they have a firm bottom and do not get stuck to the sides of the reagent stations.
3.3	Reagent stations – Number of vessels: 10 (1.8- 2 litres each)
3.4	Paraffin stations– Number: 2 (1.8- 2 litres each) – Temperature setting range: 45 - 70°C with temperature cut out facility (Temperature should be mentioned)
3.5	Computerized freely selectable and freely programmable Facility should be available. Easy editing and changing of programmes should be possible even during a processing run Infiltration time for each station should be separately programmable. Program start delay should be selectable without time limit.
3.6	In-built Vacuum function with fume control device.
3.7	Safety device for protection for drying of specimen in case of power failure The buckets should go back inside the respective solution when power fails and not hang in mid air.
3.8	LCD display panel with ergonomic control, fully protected control with full protection key board, audible alarm warning/ error message.
3.9	Machine should be able to cater to short time / quick process
3.10	Interrupting an automatic processing for reloading or removing cassettes before the end of a run should be possible
3.11	Should be an open system capable of using standard cassettes from open markets.
4 System Configuration Accessories, spares and consumables	
4.1	Quote pricing to up gradation to another basket with similar cassettes capacity.
4.2	Basket Rotor – 01 Nos.
4.3	Metal tissue basket- 04 Nos.
4.4	Aluminium reagent vessels of 1.8-2 litre capacity each-10 nos.
4.5	Beaker covers- 11 Nos.
4.6	Wax baths complete with thermostat – 02 nos.
5 Environmental factors	

5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%

6 Power Supply

6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	Suitable voltage corrector/stabilizer
6.3	Reset table over current breaker shall be fitted for protection
6.4	Suitable UPS with maintenance free batteries for minimum two-hour back-up should be supplied with the system.

7 Standards and Safety

7.1	Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.
7.2	Should be compliant with IEC 61010-1: covering safety requirements for electrical equipment for measurement control and laboratory use.
7.3	Should be FDA or CE approved product
7.4	Comprehensive training for lab staff and support services till familiarity with the system.

8 Documentation

8.1	Certificate of calibration and inspection from factory.
8.2	Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue.
8.3	User/Technical/Maintenance manuals to be supplied
8.4	Log book with instruction for daily , weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out
8.5	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
8.6	List of important spare parts and accessories with their part number and costing.

Schedule No: 11

BINOCULAR MICROSCOPE

Optical System:

- Infinitely corrected optics par focal, plan achromatic lenses with anti fungal properties.

Illumination:

- Built in transmitted Koehler illumination.
- 6 V, 20 to 30 W halogen bulb
- 220-240V 0.85/0.45A 50Hz

Focusing

- Stage height movement by roller guide (rock & pinion)
- Upper limit stopper
- Tension adjustable on coarse focus adjustment knob

Revolving nosepiece

- Quintuple

Observation tube:

- Tube inclination – 30 -45 ^{0}
- Interpupillary distance adjustment range – minimum 50 to 70 mm

Stage

- Movement range – (75+/-5) mm X - direction X (50+/-5)mm Y - direction
- Rectangular scratch resistant stage with right hand control with double slide holder and vernier callipers on X Y axis.

Condenser

- Type – Abbe condenser
- N.A. >/=1.25
- Aperture iris diaphragm - built – in

Objectives, Plan Achromat 4x, 10x, 20x, 40x & 100x

Minimum working distance for 100X should be 0.13 to 0.2 mm

Eyepiece

- 10X with F.N 20

All the necessary adapters and power cords should be provided for functioning of microscope.

Spare – Bulbs – 2 Nos.

Spare – Lamp Housing – 2Nos.

Schedule No: 12

Biological Safety Cabinets-Class-IIA

1 Description of Function

1.1	Bio safety cabinets are used to provide primary containment in the laboratory when the investigator is using potentially infectious materials.

2 Operational Requirements

2.1	Protection for operator, environment and the product, from aerosols and micro organisms
2.2	Microprocessor/Microcontroller/Microcomputer controlled system.

3 Technical Specifications

3.1	Outer Body made of MS Steel with epoxy Powder coated(dimensions4 feet height, x2 feet depth x2 feet height with variation range +/- 3inches
3.2	HEPA filters with 99.999% efficiency for particles ³ 0.3 mm (H14 class according to ENI 822)
3.3	Automatic speed compensation system against clogged main HEPA filter Pre-filtration unit with retention of 10 to 15 micro meter
3.4	Air Circulation to vertical with 30% exhaust and 70% recirculation
3.5	Single stainless steel perforated working platform
3.6	Alarms for power failure and door opening, ***choking of HEPA filter.***
3.7	Should be fitted with UV light > 800 lux
3.8	High-speed centrifugal blower with lifetime lubricated
3.9	Noise level <58dBA, Elapsed hour counter
3.10	DOP test outlet
3.11	Fluorescent lamp to obtain powerful glare-free lighting
3.11	On site installation and appropriate certificate to be provided
3.12	On/Off switch with key lock.
3.13	Gas connection should be provided in the cabinet
3.14	Quote for BOP tested Hepa filters separately
3.15	***Nominal inflow velocity of 105 fpm(0.5m/sec)***
3.16	***Nominal down flow velocity of 55 fpm(0.3 m/sec)***

4 System Configuration Accessories, spares and consumables

4.1	As specified

5 Environmental factors

5.1	Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.
5.2	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
5.3	Thu unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of 80%.
5.4	One filter set replacement should be included in CMC once in a year

6 Power Supply

6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	Reset table over current breaker shall be fitted for protection
6.3	Suitable Servo controlled Stabilizer/CVT
6.4	Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.

7 Standards and Safety

7.1	Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the

	application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.
7.2	Should be FDA or CE or ISI approved product
7.3	Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied
8.2	Certificate of calibration and inspection from factory.
8.3	Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue.
8.4	List of important spare parts and accessories with their part number and costing available in stock with the supplier.
8.5	Log book with instruction for daily , weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out
8.6	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.

Schedule - 13

Equipment Specifications for Biological Safety Cabinets-Class-IIB,

1 Description of Function

1.1	Bio safety cabinets are used to provide primary containment in the laboratory when the investigator is using potentially infectious materials.

2 Operational Requirements

2.1	Protection for operator, environment and the product, from aerosols and micro organisms
2.2	Microprocessor/Microcontroller/Microcomputer controlled system.

3 Technical Specifications

3.1	Outer Body made of MS Steel with epoxy Powder Coated dimensions4X2X2 (WXDXH) feet with variation range +/- 3inches
3.2	HEPA filters with 99.999% efficiency for particles ^{3} 0.3 mm (H14 class according to ENI 822)
3.3	Automatic speed compensation system against clogged main HEPA filter Pre-filtration unit with retention of 10 to 15 micro meter
3.4	Air Circulation to vertical with 100% exhaust
3.5	Single stainless steel perforated working platform
3.6	Alarms for power failure and door opening, ***choking of HEPA filter.***
3.7	Should be fitted with UV light > 800 lux
3.8	High-speed centrifugal blower with lifetime lubricated
3.9	Noise level <58dBA, Elapsed hour counter
3.10	DOP test outlet
3.11	Fluorescent lamp to obtain powerful glare-free lighting
3.11	On site installation and appropriate certificate to be provided
3.12	On/Off switch with key lock.
3.13	Gas connection should be provided in the cabinet
3.14	Quote for BOP tested Hepa filters separately

4 System Configuration Accessories, spares and consumables

4.1	As specified

5 Environmental factors

5.1	Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.
5.2	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
5.3	Thu unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of 80%.
5.4	One filter set replacement should be included in CMC once in a year

6 Power Supply

6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	Reset table over current breaker shall be fitted for protection
6.3	Suitable Servo controlled Stabilizer/CVT
6.4	Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.

7 Standards and Safety

7.1	Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.
7.2	Should be FDA or CE or ISI approved product

7.3	Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied
8.2	Certificate of calibration and inspection from factory.
8.3	Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue.
8.4	List of important spare parts and accessories with their part number and costing available in stock with the supplier.
8.5	Log book with instruction for daily , weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out
8.6	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.

Schedule No: 14

Equipment Specifications for Blood cell Separator - Aphaeresis Machine.

1 Description of Function

1.1 Aphaeresis is a medical technology in which the blood of a donor or patient is passed through an Aphaeresis Machine that separates out one particular constituent and returns the remainder to the circulation.

2 Operational Requirements

2.1 Fully automatic, Microprocessor controlled with access operator control panel such as touch screen.

2.2 Should perform both single and double access Aphaeresis

3 Technical Specifications

3.1 Equipments should ensure all donor safety parameters before starting the procedure and all time during operation.

3. 2 Capable of collecting various single donor blood components including peripheral blood stem cells (MNC)

3.3 Should be able to collect both single and double needle platelet Aphaeresis along with concurrent plasma and / or RBC

3.4 In – built cuff pressures and prompts grip for donor comfort and adequate blood flow.

3.5 PBSC (MNC) collection should be fully automatic

3.6 Facility to use platelets additive solution and / or normal Saline for re-suspension and storage fluid in place of plasma

3.7 Advance help menu should be available at any time during alarm conditions

3.8 Lower extra corporeal volume not more than 200 to 250 ml in case of both single and double needle Aphaeresis

3.9 Yield estimator to help decide yield, volume to be processed and suggested storage fluid and should have optical sensor at PRP line for online monitoring of component collection against the desired yield.

3.10 Continuous monitoring of collection to avoid any contamination through Interface detector

3.11 Inlet and return flow rates up to 100ml/min

3.12 The separation of blood should be able to automatically maintain a constant hematocrit to improve collection efficiency and reduce contaminations.

3.13 Compatible with sterile factory fitted disposables

4 System Configuration Accessories, spares and consumables

4.1 System as specified-

4.2 50 disposables should be provided with equipment free of cost

4.3 All consumables required for installation and standardization of system to be given free of cost.

5 Environmental factors

5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90%

5.2 The unit shall be capable of operating continuously in ambient temperature of 10 - 40deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 180-270VAC, 50 Hz fitted with Indian plug

6.2 Suitable UPS with maintenance free batteries for minimum 30 minutes back-up should be supplied with the system.

7 Standards, Safety and Training

7.1 Should be FDA or CE approved product

7.2 Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450

7.3 Comprehensive training for lab staff and support services till familiarity with the system.

8 Documentation

8.1 Certificate of calibration and inspection from factory.

8.2 List of Equipments available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service/technical manual.

8.3 List of important spare parts and accessories with their part number and costing.

8.4 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

8.5 User/Technical/Maintenance manuals to be supplied in English.

Schedule No: 15

BLOOD DONOR COUCH

1 Description of Function

1.1	Blood Donor Couch is a completely automatic enveloping, variable tilt chair and specially designed to make blood withdrawals easier, safe and functional, and also for other diagnostic and therapeutic areas including haemomixer.

2 Operational Requirements

2.1	1) Provides a comfortable position for the donor. 2) Variable positioning for either arm with a Comfortably wide arm-rests. 3) Arm rests have swinging out as well as up and down moving facility. 4) Reclining and upright body positions with a smooth shifting to any position. 5) Both sides have supporting brackets. 6) Drawers provided for the upkeep of equipment & consumables. 7) If a vasovagal attack occurs the Donor's head needs to be lowered immediately and his legs lifted above his heart level so that blood can flow back to the brain and other vital organs. This facility should be available

3 Technical Specifications

3.1	Comfortable chair type with soft padding for cushioning and rexin cover.
3.2	Seat, back rest and leg rest size designed for donor comfort. It should have step less two motor model with provision for height adjustment.
3.3	Adjustable arm rest for donor’s comfort and phlebotomist friendly
3.4	Easily tilted to head low position, electrically operated
3.5	Comfortable working level for the operator. Lifting capacity - Approx 150 kg.
3.6	4 Lockable castors for easy mobility
3.7	Storage Drawers for storing consumables & Blood Collection Monitors
3.8	UP/DOWN control
3.9	Should have interface for blood collection monitor

4 System Configuration Accessories, spares and consumables

4.1	Donor Couch -01		
4.2	Dust Cover -01		
4.3	Power cable -01		
4.4	Arm Rests (pair) -01 pair		
4.5	Remote control -01		

5 Environmental factors

5.1	The unit shall be capable of operating continuously in ambient temperature of 10 – 40^0 C and relative humidity of 15-90%
5.2	The unit shall be capable of being stored continuously in ambient temperature of 0 - 40 C and relative humidity of 15-90%
5.3	Shall meet IEC-60601-1-2 :200(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.

6 Power Supply

6.1	Power input :220-240V/ 50 Hz AC Single phase or 380-400V AC 50 Hz Three phase fitted with appropriate

	Indian plugs and sockets.		
6.2	Resettable over current breaker shall be fitted for protection		

7 Standards and Safety

7.1	All electrical actuators and mechanisms should be housed inside the structure making the product safer		

8 Documentation

8.1	User manual in English		
8.2	Service manual in English		
8.3	List of important spare parts and accessories with their part number and costing.		
8.4	Certificate of Calibration and inspection from the factory		
8.5	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.		
8.6	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.		
8.7	Original Information Brochure should be provided.		

Schedule No: 16

Equipment Specifications for Continuous Renal Replacement Therapy (CRRT) Machine.

1 Description of Function

1.1 CRRT is indicated in any patient who meets criteria for Haemodialysis therapy but cannot tolerate intermittent dialysis due to hemodynamic instability. CRRT is better tolerated by hemodynamically unstable patients because fluid volume, electrolytes and pH are adjusted slowly and steadily over a 24 hour period rather than a 3 – 4 hour period.

2 Operational Requirements

2.1 Easy to handle and maintain.

2.2 Microprocessor/microcontroller controlled user interactive menu with operating and malfunction removal instructions on display screen

2.3 Should be portable with alloy wheels and brakes.

3 Technical Specifications

3.1 Four pumps, one each for Blood, Dialysate, Replacement fluid and Effluent/filtrate.

3.2 Able to perform SCUF, CVVH, CVVHD, CVVHDF

3.3 Clear touch screen TFT/LCD Monitor/**menu driven soft keys**

3.4 Blood pump speed of appr. 10-450 ml/min.

3.5 Close blood circuit to prevent air to blood interface.

3.6 Short preparation and priming program and ready to start treatment within 10-20 minutes.

3.7 **Arterial pressure range: -250 to 300 mm of Hg**

3.8 **Venous pressure range: 0 to 350 mm of Hg**

3.9 Pre Filter Pressure: 50mmHg to -500 mmHg

3.10 Effluent Pressure: 350 mmHg+/- 50 mmHg

3.11 Programmable Substitution solution flow rate: 0-5000 mL/Hr

3.12 Dialysate Flow rate: 0-2500 mL/Hr.

3.13 Programmable Effluent Flow Rate: 60-10000 mL/Hr

3.14 Deleted

3.15 Deleted

3.16 Integrated heparin pump with flow rate of 0.5 ml-5 mL/Hr. Bolus facility range 0.5mL-5mL. Bolus frequency immediate 1-24 hrs.

3.17 Capable of changing therapies.

3.18 Three weighing scales to control system with balancing accuracy of less than 1 % of total turnover in normal conditions and weighing capacity of at least 0-20 kg.

3.19 Integrated Fluid/Blood warmer for blood/dialysate warming temp range app 33-40 deg C(+/- 3 deg C)

3.20 Ultrasonic air bubble detector and Blood leak Detector.

3.21 Alarm in case of blood leak, air in line, pressure limit violation, empty dialysate/ replacement bag, full effluent bag and advisory alarms in case of excessive TMP and filter clotting.

3.22 Should have a 30 min Battery back up including Heater and pumps.

3.23 **deleted**

4 System Configuration Accessories, spares and consumables

4.1 System as specified

4.2 **deleted.**

4.3 Should be supplied with 5 Nos. of essential accessories such as blood line set, haemofilters and ultra filtrate bags at no extra cost.

4.4 All media and consumables for setting up and standardization should be provided free of cost in addition to the items supplied in 4.3.

5 Environmental factors

5.1 The unit shall be capable of being stored continuously in ambient temperature of 0-50deg C and relative humidity of 15-90%

5.2 The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug

6.2 UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.

7 Standards, Safety and Training

7.1 Should be FDA/ CE approved product

7.2 Manufacturer/Supplier should have ISO certification for quality standards.

7.3 **Shall comply with international electrical safety standards**

7.4 Comprehensive training for lab staff and support services till familiarity with the system.

7.5 Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied in English.

8.2 Certificate of calibration and inspection.

8.3 List of Equipments available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service/technical manual.

8.4 List of important spare parts and accessories with their part number and costing.

8.5 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

Schedule No: 17

ENZYME AMPLIFIED CHEMILUMINESCENCE IMMUNOASSAY ANALYZER

1. Fully Automated Random Access System: Immunoassay of more than 90 different parameters all Hormones, all Tumour Markers, all Cardiac markers.
2. System should be able to perform Routine & ST A T assays
3. The Equipment should have a Throughput of not less than 100 tests per hour
4. Should have Two Precision Syringes for accurate delivery of Samples and Reagents.
5. System should have continuous Loading of Samples and Reagents. Must also have 12 or more reagent loading at a time & Triple Marker test capability.
6. Equipment must have a integrated Water and Probe Wash system. Centrifugal Washing technique and Automatic reagent level indication by Sensors.
7. Audible and Visual Alarms for all error messages.
8. Equipment must have facility for Automatic Dilution of Sample. The machine must also have On-Board Cooling of Samples and Reagents.
9. The Equipment should have flexible Windows based software; LIS interface and real time system monitoring. Optional Bar Coding & Colour Coding with State of the Art Software.
10. The equipment should be managed by a Computer and have RS232 interface, software for control. Data evaluation & management. Extensive QC graphics including L-J plots, QC management. The Specification of the computer should be having a micro processor of speed not less than 3.0 GHz, 1 GB RAM, 80 GB HDD, 1.44 MB Floppy drive, 105 key ergonomic key Board, scroll mouse, 56 kbps modem, 32 MB AGP Card, 52x CD-RW Drive, with 17" TFT Digital Colour Monitor with Windows Operating system and compatible Laser jet printer for documentation having minimum 600 DPI resolution, not less than 12 pages per minute speed.
11. Compatible on line UPS with at least one hour battery back up.
12. The price of all consumables should be quoted separately unit wise

Schedule No: 18

COLOR DOPPLER ECHOCARDIOGRAPHY SYSTEM WITH ADVANCED 2D FACILITY

1. Description of Function

1.1 Colour Doppler Echocardiography System is required to study the anatomical abnormalities and blood flow in the heart and associated vessels.

2. Operational Requirements

2.1 Latest generation Electronic Phased array Colour Doppler system with Minimum 512 Electronic independent channels. System should be DICOM ready and capable of being interfaced with HIS/RIS/PACS.

2.2 Should be field up gradable to next generation system on site. All new software should be upgraded free of cost for at least 3 years

2.3 Frequency compounding or better technology for better resolution and penetration.

3. Technical Specifications

3.1 Latest generation Electronic Phased array Colour Doppler system with Minimum 512 Electronic independent channels.

3.2 256 grey shades for sharp contrast resolutions

3.3 Adult & Paediatric Trans thoracic Cardiac, TEE (Adult & Paediatric) and Vascular Probes to be supplied which should be latest generation wide band transducers.

3.4 Harmonic Imaging- System should have following modes in harmonic with separate setting for:
a. Tissue Harmonic.
b. Contrast Harmonic.
c. Harmonic Angio.
d. Quantification of harmonics imaging.
e. Strain rate imaging facility.

3.4.1: - Tissue Doppler Imaging Capability- Doppler Tissue Velocity, Energy and Acceleration.
3.4.2: - (Myocardial Perfusion Imaging)Contrast Imaging capabilities including Contrast agent delivery system and contrast agent for at least 50 cases.
3.4.3 : - Strain rate imaging facility

3.5 Harmonic imaging capability in Adult Cardiac, Paediatric Cardiac and linear Probe.

3.6 Gain control in two dimensions for additional level of flexibility to image quality control.

3.7 Real time high frequency 2D for higher resolution and low frequency Doppler for higher sensitivity in all probes

3.8 Frame rate should be 300 FPS or more

3.9 Steerable PW/CW in all Phased Array probes.

3.10 High-definition acoustic zoom for enlarging sections of 2D and Colour flow images with more acoustic information for greater clarity and detail while maintaining an optimal frame rate.

3.11 Modes –2D, M-Mode, Steerable PW/CW Doppler, Colour Doppler, and High Definition Colour flow.

3.12 Monitor should be 15" or more, high-resolution colour Monitor.
Tilt and Swivel monitor should be able to view in all angles and all light conditions.

3.13 Colour Flow Imaging for
a) Increased lateral & spatial resolution.
b) Detection of even subtle areas of turbulence, displaying a more physiological blood flow appearance without loss of frame rate.
c) Colour flow with capability of automatically picking up colour flow as a function of focal depth

3.14 Tissue Colorization (B-Colour) for improved contrast resolution

3.15 Application software for Adult, Paediatric, Foetal and Peripheral Vascular and Trans oesophageal applications. (All application package should be built into the system)

3.16 Cine loop memory- more than 120MB of memory.
a. High Frame rate review for better clarity of playback images study in slow motion.
b. Quad loop with memory for pre and post image comparison of any procedure.
c. Memory- 256 frames or more in quad loop. M Mode & Doppler Scroll Memory-40 seconds or more.
d. Frame grabber facility for post analysis.

3.17 Various maps for pre and post processing.

3.18 ECG and respiration trigger facility.

3.19 User defined system and application presets for multi-user department.

3.20 - Inbuilt DVD (CR-RW) disc drive for image storage, archiving, and retrieval (Standard with system) for offline complete analysis.
3.21 Dedicated integrated dynamic stress echo package for flexible user defined protocols with stacked sub loops facility and contrast stress protocol usable for stress echocardiography.

3.22 Tissue movement colorization with quantification possibility for IHD/CAD/Heart Failure patients.

3.23 Three or more transducer ports.

3.24 Colour Map resolution up to 128 levels.

3.25 Facility for high definition digital acquisition, review and editing of complete patient studies.

3.26 Facility of Real time perfusion studies

3.27 PC based Peripheral system comprising of dedicated computer at least 100 GB storage space (Hard disc) with 1 GB RAM or more with a Microprocessor speed of more than 3.00 GHz, frame grabber incorporated (All Software Inclusive) interfaced with the echocardiography machine with DVD writer and a high quality Colour Laser printer. CD/DVD produced should be playable on any system.

3.28 Colour M-Mode

4. System Configuration Accessories, spares and consumables

4.1 Colour Doppler System with all application packages Quad loop for serial studies with High frame rate review. Harmonic imaging capability in all modes. (Tissue, Contrast, Anglo) Integrated Stress Echo Package
Digital Storage and Retrieval – 01

4.2 Adult Cardiac probe Electronics Phased Array probe. – 01

4.3 Paediatric Cardiac probe Electronics Phased Array probe. – 01

4.4 Electronics Phased Array Probe for Vascular applications- 01

4.5 Multi plane TEE Probe for Adult and Paediatric echocardiography – 01 each
4.6 DVD/CD Recorder with 100 CDs and 100 DVDs

4.7 Colour Print Paper- 500 sheets

4.8 ECG Cable – 02

4.9 Laser Colour Printer – 01

5. Environmental factors

5.1 The unit shall be capable of operating continuously in ambient temperature of 30 deg C and relative humidity of 80%.

5.2 Pre Requisites should be clearly spelt out in terms of room requirements.

6. Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug

6.2 Resettable over current breaker shall be fitted for protection

6.3 Suitable Servo controlled Stabilizer/CVT

6.4 Online UPS of suitable rating with voltage regulation and spike protection for 30 minutes back up.

7. Standards, Safety and Training

7.1 Should be FDA or CE approved product

7.2 Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450

7.3 The product shall comply with IEC 60601-2-37 ed1: Medical Electrical Equipment - Part 2-37:
Particular Requirements for the Safety of Ultrasonic Medical Diagnostic and Monitoring Equipment

7.4 Type of protection against electric shocks -- Class I Degree of protection against electric shocks for ultrasound probes Type "BF" For ECG electrodes Type 'CF"

7.5 Manufacturer/Supplier should have ISO certification for quality standards.

8. Documentation
8.1 User manual in English.

8.2 Service manual in English.

8.3 List of important spare parts and accessories with their part number and costing available in stock with the supplier.

Schedule No:19

Cryostat

Specifications:

Open top, heated sliding window, corrosion proof, stainless steel cryo chamber with good Fluorescent illumination.
Cooling via two separate refrigeration system.
Temp. of cryo chamber should be at least -30° c Facility for integrated peltier quick specimen freezing up to -45° C. Separate cooling should be adjustable up to -50 ° C.
Temperature of the cryo chamber should be maintained within ± 2° C of set temperature and maintained by hermetically sealed compressor system.
Automatic programmable defrosting and manual defrosting should also be possible.
Fully motorized microtome – movement controlled by manual as well as foot switch.
Microtome should be encapsulated to support efficient spray disinfection.
Microprocessor / Microcontroller based touch key control panel with LCD display for all functions including microtome
Space for other specimen rack minimum 6 blocks . Removable section waste tray.
Section thickness setting must be outside the cryo chamber.
Disposable blade holder for low and high profile blades and Knife holder which can hold minimum 16 cm C type knife.
Specimen holder can hold specimen size up to 70 x 50 mm.Facility for both 360° rotation as well as movement in X Y axis. Section thickness cutting 1-60 micro meter.
Specimen retraction around 50 micron.
Trimming in steps from 5 to 150 Microns
Motorised coarse speed 500 micro meter /sec & 1000 micro meter / sec
Control for number of sections.
Cryo cabinet should be of appropriate size.
Voltage - 220 -240 V, 50 Hz
Essential Accessories should be quoted separately:

1. Microtome knife 160 mm. – 4 Nos.
2. Voltage stabilizer, block holder.
3. UPS for the above machine
4. Two bottle of low temperature oil.
5. High and Low profile blades – 5 packets each.
6. Specimen holder of appropriate size – 20 Nos.
7. Freezing compound at least 10 bottles
8. Glass ant- role device for knives and blades

Schedule No: 20

STATE OF THE ART LATEST GENERATION PORTABLE COLOUR DOPPLER SYSTEM

System should be latest generation state of the art portable colour Doppler for Abdominal, Vascular, Obstetrics & Gynaecology, Musculoskeletal, small parts application etc., with suitable evaluation and measurement packages

Features Remarks

1. System should be offered with following Broad Band width Transducers:
(i) Convex Array Transducer (frequency range of 2 to 4 MHz) (+/- 1 MHz)
(ii) Linear Array Transducer (frequency range of 4 to 10 MHz) (+/- 1 MHz)
(iii) Broad band micro convex transducer (frequency range between 4 to 10 MHz) (+/- 1 MHz)
(iv) Intracavitary Transducer (frequency range between 4 to 10 MHz) (+/-1 MHz)

2. System should have following modes:
2 D, M Mode, Pulsed Wave, Continuous Wave, Colour Flow Imaging & Colour Power Angio Imaging,
Tissue Harmonic Imaging should be available at least in one transducer.
3. Digital Processing Channels – 60 or more digital channels for high resolution imaging with acquisition rate of at least 50 frames per second
4. Grey scale (min. 256 or more)
5. Broad Bandwidth Beam former technology transducers for extreme high resolution 2D Imaging
6. System should have facility for gain adjustments using slide pot controls.
7. Should have minimum one active ports with direct switching from console
8. System should have a High resolution Fully Articulating Non Interlaced flicker free, antiglare, Flat Panel Display of 10 inches or more.
9. System should have Image Management facility with facility for direct storage of Images and loops in the Hard Disk Drive and also thumbnail review to view & edit Images, loops and also reports
10. Display Annotation, Patient id display and alpha numeric key board with track ball & provision for reverse, invert facility
11. Complete package for measurement and calculation provision for distance, area, volume & Circumference etc.
12. Weight of the equipment should not be more than 5Kg.
13. Image Storage: Should have inbuilt hard disk for image storage. Specify image storage capacity
14. Image Archival:
Inbuilt CD writer/ Flash drive with the facility to transfer images
15. DICOM Compatible
16. System should have direct connectivity to Colour laser printer or through PC (PC to be supplied by the bidder) for printing images & report
17. System should have extensive Calculation software package for General Imaging, Ob/Gyn & Vascular Imaging
18. Inbuilt battery backup for 2 hrs appox.
19. Accessories:
    1. Lockable mobile trolly where the portable machine can be lock.

2. Colour laser Printer for direct printing of Images from the system (with CE or FDA mark) (min dpi of 1200)
3. Biopsy attachment for the Convex, Linear & the TV/TR probes
4. UPS of appropriate rating with 30 mins back up

20 Free software upgrade(s) during the period of warranty/CMC

Schedule No: 21
Deep freezer Low Volume
(-20 deg C)

Equipment Specifications for Deep freezer Low Volume

(-20 deg C)

1 Description of Function

1.1	Deep Freezers are required to preserve blood and blood products, vaccinations etc at specified temperature.

2 Operational Requirements

2.1	Microprocessor Vertical Freezer, at least external double door with adjustable **5** to 8 shelves (frost free)
2.2	Separate Chamber racks to be pulled out for easy handling
2.3	Non-CFC refrigerant

3 Technical Specifications

3.1	Capacity within 250 to 300 L
3.2	Digital display of set and actual temperature, with audiovisual alarm
3.3	No condensation on storing material with automatic electric defrost
3.4	Construction: Solid rust free cabinet to prevent corrosion and lockable castor wheels.
3.5	Refrigeration System Heavy Duty refrigeration system, maintenance free, below -20 deg C ($\pm 1^0$ C) cascaded connection with hermetically sealed refrigeration compressors and reliable refrigeration to minimize noise and vibration, air cooled with security lock to prevent unintentional switch off shall be supplied. It should have cooling time within hours at maximum ambient temperature of 33deg C. The equipment should be of continuous duty and frost free.
3.6	Alarm It should also have audio visual Electronic Alarm System independent of power supply.
3.7	Insulation High density polyurethane or equivalent Gaskets - Double seal silicon.

4 System Configuration Accessories, spares and consumables

4.1	As specified

5 Environmental factors

5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%

6 Power Supply

6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	Suitable Servo controlled Stabilizer/CVT
6.3	Resettable over current breaker shall be fitted for protection

7 Standards and Safety

7.1	Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450
7.2	Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the

	application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.

8 Documentation

8.1	User manual in English
8.2	Service manual in English
8.3	List of Equipments available for providing calibration and routine Preventive Maintenance Support. As per manufacturer documentation in service/technical manual.
8.4	Certificate of calibration and inspection from factory.
8.5	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.
8.6	List of important spare parts and accessories with their part number and costing available in stock with the supplier.

Schedule No: 22

Equipment Specifications for Deep freezer High Volume (-20 deg C)

1 Description of Function	
1.1	Deep Freezers are required to preserve blood and blood products, vaccinations etc at specified temperature.
2 Operational Requirements	
2.1	Vertical Freezer, at least external double door with adjustable **5** to 8 shelves (frost free)
2.2	Separate Chamber racks to be pulled out for easy handling
2.3	Non-CFC refrigerant
3 Technical Specifications	
3.1	Capacity within 400 to **500** L
3.2	Digital display of set and actual temperature, with audiovisual alarm
3.3	No condensation on storing material with automatic electric defrost
3.4	Construction: Solid rust free cabinet to prevent corrosion and lockable castor wheels.
3.5	Refrigeration System Heavy Duty refrigeration system, maintenance free, below -20 deg C ($\pm$ 1^{0}C) cascaded connection with hermetically sealed refrigeration compressors and reliable refrigeration to minimize noise and vibration, air cooled with security lock to prevent unintentional switch off shall be supplied. It should have maximum cooling time hours at maximum ambient temperature of 33deg C. The equipment should be of continuous duty and frost free.
3.6	Alarm It should also have audio visual Electronic Alarm System independent of power supply.
3.7	Insulation High density polyurethane or equivalent Gaskets - Double seal silicon.
4 System Configuration Accessories, spares and consumables	
4.1	As specified
5 Environmental factors	
5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
6 Power Supply	
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	Suitable Servo controlled Stabilizer/CVT
6.3	Resettable over current breaker shall be fitted for protection
7 Standards and Safety	
7.1	Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450
7.2	Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the

	application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.

8 Documentation

8.1	User manual in English
8.2	Service manual in English
8.3	List of Equipments available for providing calibration and routine Preventive Maintenance Support. As per manufacturer documentation in service/technical manual.
8.4	Certificate of calibration and inspection from factory.
8.5	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.
8.6	List of important spare parts and accessories with their part number and costing available in stock with the supplier.

Schedule No: 23

Equipment Specifications for Deep freezer (-40 deg C)

1 Description of Function

1.1 Deep Freezers are required to preserve blood and blood products, vaccinations etc at specified temperature.

2 Operational Requirements

2.1 Microprocessor controlled Vertical Freezer, with double door: Inner Door should be transparent and separate for each compartment with adjustable 6 to 8 shelves.

2.2 Separate Chamber racks to be pulled out for easy handling

2.3 Non-CFC refrigerant

3 Technical Specifications

3.1 Capacity 300 to 350 L

3.2 Digital display of set and actual temperature, with audiovisual alarm
Graphic Temperature recording chart for Continuous temperature recording.

3.3 No condensation on storing material with automatic electric defrost

3.4 Construction:

Solid rust free cabinet to prevent corrosion and lockable castor wheels.

3.5 Refrigeration System

Heavy Duty refrigeration system, maintenance free, below -40 deg C (+ 10 C) cascaded connection with hermetically sealed refrigeration compressors and reliable refrigeration to minimize noise and vibration, air cooled with security lock to prevent unintentional switch off shall be supplied. It should have maximum cooling time of 4 to 5 hours at maximum ambient temperature of 33deg C.

The equipment should be of continuous duty

3.6 Alarm

It should also have audio visual Electronic Alarm System independent of power supply.

3.7 Insulation

High density polyurethane or equivalent Gaskets – Double seal silicon, with temperature hold over time of at least two hours in case of complete power failure.

4 System Configuration Accessories, spares and consumables

4.1 As specified

5 Environmental factors

5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%

5.2 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug

6.2 Suitable Servo controlled Stabilizer/CVT

6.3 Resettable over current breaker shall be fitted for protection

7 Standards and Safety

7.1 Should be FDA or CE or ISI approved product

7.2 Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450

8 Documentation

8.1 User manual in English
8.2 Service manual in English
8.3 List of Equipments available for providing calibration and routine Preventive Maintenance Support. As per manufacturer documentation in service/technical manual.
8.4 Certificate of calibration and inspection from factory.
8.5 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.
8.6 List of important spare parts and accessories with their part number and costing available in stock with the supplier.

Schedule No: 24

Equipment Specifications for DEEP FREEZERS(-80 deg C)

1 Description of Function	
1.1	Deep Freezers are required to preserve blood and blood products, vaccinations etc at specified temperature.
2 Operational Requirements	
2.1	Internal Minimum Capacity 350 to 400 L net at least external double door with adjustable At least ***4 to*** 6 shelves
2.2	Range up to -65^{0}C to -85^{0}C(Adjustable)
2.3	Vertical Cabinet (upright model)
3 Technical Specifications	
3.1	Construction: Solid rust free cabinet to prevent corrosion and lockable castor wheels. Inner surface should be stainless steel.
3.2	CONTROL SYSTEM Micro-processor based temperature controller with digital temperature display LED/LCD with seven days graphic temperature recorder with rechargeable battery back up including charger maintenance free and insensitive to vibration. Details of battery and battery charger shall be indicated.
3.3	Refrigeration System Heavy Duty refrigeration system, maintenance free, below -85^{0}C ($\pm$ 1^0 C) with hermetically sealed dual compressors, noise free and vibration free, air cooled with security lock to prevent unintentional switch off shall be supplied. It should have maximum cooling time of 5 hours at maximum ambient temperature of 33^{0}C. The equipment should be of continuous duty.
3.4	Alarm It should also have audio visual Electronic Alarm System independent of power supply.
3.5	Insulation High density polyurethane or equivalent Gaskets - Double seal silicon.
3.6	Door heating system for easy opening of door
4 System Configuration Accessories, spares and consumables	
4.1	Refrigerator -01
5 Environmental factors	
5.1	The unit shall be capable of operating continuously in ambient temperature of 10 -40^0 C and relative humidity of 15-90%
5.2	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
6 Power Supply	
6.1	Power input to be 220-240VAC, 50Hz,/440 V 3 Phase as appropriate fitted with Indian plug
6.2	Resettable over current breaker shall be fitted for protection
6.3	Suitable Servo controlled Stabilizer/CVT
7 Standards and Safety	
7.1	Should be ISI (or equivalent) approved product.
7.2	Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450
7.3	Manufacturer should have ISO certification for quality standards.

8 Documentation

8.1	User manual in English
8.2	Service manual in English
8.3	List of important spare parts and accessories with their part number and costing
8.4	Certificate of Calibration and inspection from the factory
8.5	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.
8.6	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.

Schedule No: 25

Dental Chair (Basic)

1 Description of Function	
1.1	Dental Chair Basic is the entry level dental chair required for dental examination and surgical procedures.
2 Operational Requirements	
2.1	Physiological dental chair operated by electricity, upholstery of good material and soothing colour
2.2	Should be capable of up gradation to attachment of light cure unit.
3 Technical Specifications	
3.1	Fully adjustable back rest and head rest
3.2	Electrical, operated water control for basin/bowl which is Ceramic.
3.3	Body of the chair and unit is painted and non – rust able
3.4	Sensor Controlled Lights with Halogen bulbs 12v, 55w, and 2 intensity with 4 bulbs spare.
3.5	Reversible and Autoclavable steel tray connected to articulatory arm. 20 plastic Autoclavable instrument trays
3.6	High power motorized saliva ejector
3.7	**In built delivery unit with 3 way syringe and Air rotor and air motor attachments, water controlled Air motor and Air rotor hand pieces one each.(straight and contra angle).**
3.8	**Deleted.**
3.9	Ergonomic Pneumatic stool:- **I Nos**
3.12	Oil Free Air Compressor(Medical Grade) 1. It should have Air moisture filter 2. It should have Non-retraction valve 3. It should have Pressure **gauge** 4. It should have Air tank (capacity of 30-40 Lt.) **5.** It should have Auto cut-off switch **6.** It should give medical grade Air which is absolutely oil free. **Technical Features** 1200-1500 R P M, 230 Voltage/50 Hz
3.13	Mounted Dental X-ray box (Dental X-ray Viewer) **for intra oral x-rays**
4 System Configuration Accessories, spares and consumables	
4.1	System as specified-
4.2	All consumables required for installation and standardization of system to be given free of cost.
4.3	**Deleted**
5 Environmental factors	

5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%		
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%		
5.3	Complete installation of the system including water input **with suitable filter** and drainage system has to be installed		

6 Power Supply

6.1	Power input to be 220-240VAC, 50Hz		
6.2	Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)		
6.3	Reset table over current breaker shall be fitted for protection		

7 Standards, Safety and Training

7.1	Should be FDA/ CE / BIS approved product		
7.2	Manufacturer should have ISO certification for quality standards.		
7.3	Electrical safety conforms to **standards for international electrical safety**		
7.4	Comprehensive warranty for 5 years and provision of AMC for next 5 years.		

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	Certificate of calibration and inspection.		
8.3	List of Equipments available for providing calibration and routine Preventive Maintenance Support. As per manufacturer documentation in service/technical manual.		
8.4	List of important spare parts and accessories with their part number and costing		
8.5	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.		

Schedule No: 26

Dental Chair (Medium)

1 Description of Function	
1.1	Dental Chair Basic is the entry level dental chair required for dental examination and surgical procedures.
2 Operational Requirements	
2.1	Physiological dental chair operated by electricity, upholstery of good material and soothing colour
3 Technical Specifications	
3.1	Fully adjustable back rest and head rest
3.2	Electrical, operated water control for basin/bowl which is Ceramic.
3.3	Body of the chair and unit is painted and non – rust able
3.4	Sensor Controlled Lights with Halogen bulbs 12v, 55w, and 2 intensity with 4 bulbs spare.
3.5	Reversible and Autoclavable steel tray connected to articulatory arm. 20 plastic Autoclavable instrument trays
3.6	High power motorized saliva ejector
3.7	**In built delivery unit with 3 way syringe and Air rotor and air motor attachments, water controlled Air motor and Air rotor hand pieces one each.(straight and contra angle).**.
3.8	**deleted**
3.9	Ergonomic Pneumatic stool.-2 Nos.
3.10	Ultrasonic scalar & endo unit with different types of endo tips & Scaler tips - 14 each of endo tip and scaler.
3.11	Light cure unit (LED) with protective shield and preset timings.
3.12	Oil Free Air Compressor(Medical Grade) 1. It should have Air moisture filter 2. It should have Non-retraction valve 3. It should have Pressure gage 4. It should have Air tank (capacity of 30-40 Lt.) **5.** It should have Auto cut-off switch **6.** It should give medical grade Air which is absolutely oil free **Technical Features** 1200-1500 R P M, 230 Voltage/50 Hz
3.13	Mounted Dental X-ray box (OPG film size).
3.14	**Deleted**
4 System Configuration Accessories, spares and consumables	
4.1	System as specified-
4.2	All consumables required for installation and standardization of system to be given free of cost.
4.3	**deleted**
5 Environmental factors	

5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%		
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%		
5.3	Complete installation of the system including water input and drainage system has to be installed		

6 Power Supply

6.1	Power input to be 220-240VAC, 50Hz		
6.2	Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)		
6.3	Reset table over current breaker shall be fitted for protection		

7 Standards, Safety and Training

7.1	Should be FDA /CE or BIS approved product		
7.2	Manufacturer/Supplier should have ISO certification for quality standards.		
7.3	Electrical safety conforms to standards for international standards.		
7.4	Comprehensive warranty for 5 years and provision of AMC for next 5 years.		

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	Certificate of calibration and inspection.		
8.3	List of Equipments available for providing calibration and routine Preventive Maintenance Support. As per manufacturer documentation in service/technical manual.		
8.4	List of important spare parts and accessories with their part number and costing		
8.5	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.		

Schedule No: 27

Dental Chair and Unit (High End)

1 Description of Function	
1.1	The dental chair and unit is required for dental examination and surgery.
2 Operational Requirements	
2.1	The complete unit with dental chair and hand-pieces is required.
2.2	Complete unit with Micro motor, Air Rotor, Air motor, Ultrasonic Scalar, Micro motor (3000 to 40,000 rpm range) and **motorized low noise suction for surgery**
3 Technical Specifications	
3.1	Dental Chair Specifications: 1.) Fully motorized hydraulically self-adjusting Chair with lifting capacity of 200 kg. 2) Corrosion free construction and durable scratch resistant epoxy paint finish 3) Should have seamless ultra-thin upholstery to facilitate easy cleaning/disinfecting 4) Double articulating headrest for comfortable support. 5) Footswitch with multifunction. It should provide all chair movements, adjustable and Programmable position, movement of return to zero and emergency stop. 6) The hand-rests should be fully adjustable and should rotate out of the way of the p atient when he steps off.
3.2	Dental Unit Specifications: 1) Should be attached to the chair with overhead delivery system to accommodate up to following 4 modules: a) One Turbine connections with hand-piece b) One air-motor connection with air-motor and hand-pieces (straight & contra) c) One fibre optic air rotor connection with quick disconnect coupling and light cure unit to be attached to the same coupling with hand pieces. (d) One **3** way-syringe with removable tip for sterilization. (e) All the controls of the chair should be touch pad on doctor's and assistant's sides. 2) The design should be such that it can be simply cleaned and disinfected to reduce the possibility of cross infection. Autoclavable pad should be provided on the Unit where the hand pieces are placed. 3)**deleted** 4)Should have a non-retraction valve to avoid the reflux of contaminated materials 5)**deleted** 6) Should have warm water syringe. 7) Integrated 17 inches LCD/TFT Monitor should be provided..
3.3	Spittoon/Water Unit Specifications: 1.Removable porcelain bowl, cup filler and spittoon nozzles which can be cleaned easily. 2. Water should get ON in the spittoon automatically as soon as the patient gets up for spitting. 3.Adjustable Timer up-to 15 seconds should be there to adjust timings of the water flow in the spittoon 4.One 3 way syringe should be there on the assistant side 5.Should have Hi/Lo suctions with easy reach filters. The high suction should be powered through a motorized unit. 6. Swivel spittoon should be provided.
3.4	Operating Light Specifications: 1.Two intensity cold light halogen light, rotatble in 2 axis. Should be supplied with 4 spare bulbs.
3.5	Oil Free Air Compressor(Medical Grade) 1. It should have Air moisture filter 2. It should have Non-retraction valve 3. It should have Pressure gage 4. It should have Air tank (capacity of 30-40 Lt.)

	5. It should have Auto cut-off switch **6.** It should give medical grade Air which is absolutely oil free **Technical Features** 1200-1500 R P M, 230 Voltage/50 Hz
3.6	Should be supplied with LED Light Cure Unit / Modular Light Cure Unit
3.7	Foot Control: Single foot control for all chair movements and control for air rotor and air motor.
3.8	Dental Stool: Stable with 5-castor base, with load stabilizing gas spring. Backrest tilt should be adjustable - 2 Nos. (one for Dental surgeon and one for Assistant)

4 System Configuration Accessories, spares and consumables

4.1	System as specified-
4.2	All consumables required for installation and standardization of system to be given free of cost.
4.3	**Modular furniture with sink and tap as per the site requirements.**

5 Environmental factors

5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
5.3	Complete installation of the system including water input and drainage system has to be installed

6 Power Supply

6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)

7 Standards, Safety and Training

7.1	Complete system should be FDA/ CE or BIS approved product.
7.2	Manufacturer should have ISO certification for quality standards.
7.3	Electrical safety conforms to standards for international electrical safety standards.
7.4	Provision for Remote Diagnostics through RS-232C serial interface or equivalent.

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied in English.
8.2	Certificate of calibration and inspection.
8.3	List of Equipments available for providing calibration and routine Preventive Maintenance Support. As per manufacturer documentation in service/technical manual.
8.4	List of important spare parts and accessories with their part number and costing.
8.5	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

Schedule No:28

DIGITAL RADIOGRAPHY-FLUOROSCOPY SYSTEM -800mA

Specifications for State of the art versatile, remote controlled Digital Radiography Fluoroscopy system capable of all radiological examinations like GI procedures, Urological procedures, ERCP, Endoscopy, and Venography etc.

Features	Remarks
1. Table : a. Patient should be easily accessible from back & front of the table. b. +90°/-15° tilting facility c. Table top should have motorized longitudinal and transverse movements / RF Imaging chain movements. d. Full coverage of patient anatomy should be possible without having to reposition the patient. e. Should be able to withstand maximum patient weight of 180 kg or more	
2. Automatic Spot Film device : a. Grid ratio of at least 12:1 with 60 lines/cm (higher grid ratio is preferred) b. Under table spot film device should have travel of 100 cm or more. c. Automatic sensing and fast positioning of cassettes d. Table-top to film distance should be small to avoid magnification	
3. X-Ray Unit : a. 80 kW High frequency/inverter technology generator with automatic exposure control. b. Dual focus X-Ray tube with anode heat storage capacity 300 kHU or more c. Motorized collimator with additional dose reduction. Automatic filter selection should be available. d. Additional X-Ray dose reduction measures should be available	

Features	Remarks
4. Imaging System: a. CCD based 30 cm Image Intensifier mounted in under table position. b. CCD Senor 1K x 1K c. DQE should be minimum of 61% for full field. d. 18" Antiglare flicker-free TFT/LCD colour monitors for live image display in the examination room and control room. e. Foot switch for table-side release of fluoroscopy and acquisition during the examination.	
5. Digital System: a. High resolution system capable of image acquisition and display in 1024x1024 matrix with 12 bit resolution or higher. b. Image processing functions including real-time harmonization, edge enhancement, measurements. c. Serial exposures of 4 – 16 frames / sec or more for fast serial acquisitions. d. Last Image hold (LIH) and Collimation on LIH should be available. e. Networking capabilities with DICOM send and Print. f. Image storage capacity of 50,000 images or more g. DVD recorder for archiving images in DICOM, TIFF and AVI formats h. 5000 DVDs should be provided	
6. Accessories : a. Compression band b. UPS for the 30 mins back up for complete system c. Lead Glass 100cm x 120 cm. d. Lead Aprons (light weight, vinyl of 0.5 mm lead equivalence) - 6 nos.	

Schedule No: 29

RADIOGRAPHY UNIT- 500mA

A.	**Generator:**
1.	Generator should be high frequency/inverter type for constant output.
2.	Output 50 KW or more.
3.	KV range 40 KV – 120 KV.
4.	Output at 100 KV should be 500 mA or more.
5.	It should have automatic exposure control device.
6.	It should have digital display of KV & mAs.
7.	Anatomical programming radiography should be possible.
8.	It should have over loading protection.
B.	**X – Ray Tube and Collimator:**
1.	The x-ray tube should be rotating anode high speed, compatible with the generator and must have dual focus. Focal spots of following sizes: Large Focus: 1.2/2.0 mm or better. Small Focus: 0.6/1.0 mm or better. Tube with anode heat storage capacity 150 KHU or more.
2.	Motorized collimator having additional filters (for Dose Reduction) and auto shut provision for the light.
D.	**X – Ray Table:**
1.	Horizontal table with floating table top.
2.	It should have transverse $\pm$ 10 cm or more and longitudinal movements $\pm$ 35 cm or more with electromagnetic brakes.
3.	It should be thin table top.
4.	It should be provided with bucky which can hold all standard sizes of cassettes up to 14”x17”.
5.	Bucky should have a grid ratio 12:1 or more with 40 lines per cm.
E.	**Vertical Bucky Stand:**
1.	It should have provision to do chest radiography without grid.
F.	**Essential Accessories:** The following essential accessories to be provided with the unit.
1.	Voltage stabilizer of required capacity, the capacity and make of the voltage stabilizer should be specified.
2.	Lateral cassette holder – One.

Schedule No: 30

Video Enteroscope (Double balloon)

1 Description of Function

1.1	Double-Balloon Endoscopy System allows ease of insertion and makes not only diagnosis but also treatment of the entire small intestine a reality.

2 Operational Requirements

2.1	Enteroscope should be compatible with the commonly used light sources.

3 Technical Specifications

3.1	**a)** Direction of View: Forward **b)** Observation Range app: 6~100mm **c)** Field of View min 140 Degrees **d)** Specifications Enteroscope: **e)** Distal End Diameter app: 9.5 mm **f)** Flexible Portion Diameter app: 9.2 mm **g)** Bending Capability (Up/Down) 180 Degrees / 180 Degrees **h)** Bending Capability (Left/Right) at least 150 Degrees / 150 Degrees **i)** Forceps Channel Diameter more than 2.5mm **j)** Working Length not less than 2,000mm **k)** Video output to be compatible with the video processor specified.
3.2	Video processor with light source & Monitor 1. Power supply 200-240 V A/C 2. PAL type video signal. 3. Controls for color adjustment, to enhancement and balance settings. 4. Controls to freeze images, enhance a portion of frozen image (zoom & post-processing). 5. Patient and physician data input key board.. 6. Operates on Xenon lamp. 7. Emergency lamp. 8. Compatibility with the gastro scope and colonoscope duodenoscopE and Enteroscope 9. 15” LCD colour monitor with XGA resolution.
3.3	**Over-tube Specifications :** a) Outer Diameter app:13.2mm b) Inner Diameter app:10.8mm c) Distal End Diameter app: 9.8mm d) Outer Diameter (Balloon) : 40mm e) Working Length app:1,350mm
3.4	Balloon Pump Controller with Remote Switch Specifications Set Pressure of Balloon app : 5.5kpa+/-2kpa Maximum Flow Rate of Pump :app: 170ml/10sec

4 System Configuration Accessories, spares and consumables

4.1	System as specified
4.2	1. Biopsy forceps :3 each 2. Foreign body grasper (basket type) 2

	3. Polypectomy snare:2 4. Standard tip canula:2 types – 10 each 5. Sphincterotome for side viewing duodenoscope only (wire guided, triple lumen) – 10 6. Mechanical lithotripter :5 7. Polypectomy cautery system :1 8.Guide wires 2 types (0.025 “F, 0.035 “F in diameter); length 450 cm, non-kinkable with stripes to detect movement – 5 9.Basket for retieving stones with memory filaments – 5 10.Balloons 11mm diameter and wire guided – 5 11.Double pigtail stents – 7 cm, 10 cm long; 7 F and 10 F diameter – each 10 12.Stents – straight 7 F and 10F; 7 cm and 10 cm long – each 10 in number		
5 Environmental factors			
5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%		
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90%		
6 Power Supply			
6.1	Power input to be 220-240VAC, 50Hz		
6.2	UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.		
7 Standards, Safety and Training			
7.1	Shall be certified to be meeting safety standard IEC 60601-2-18 part 2 Particular requirements for the safety of endoscopic equipment.		
7.2	Should be FDA , CE,UL or BIS approved product		
8 Documentation			
8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	Certificate of calibration and inspection.		
8.3	List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.		
8.4	List of important spare parts and accessories with their part number and costing		
8.5	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.		
8.6	User list to be provided with performance certificate.		

Schedule No:31

32 CHANNEL DIGITAL EEG SYSTEM FOR NEUROLOGY

1 Description of Function				
1.1	Deleted.			
2 Operational Requirements				
2.1	EEG System complete with software for acquisition and review and the compatible computer with necessary interface and printer is required.			
3 Technical Specifications				
3.1	Hardware: 1. Should be PC based with minimum following PC specifications: Pentium IV, 2GB DDR RAM, 500 GB HDD, CD/DVD RW, 21" LCD TFT Display, Multimedia Key Board, Optical Mouse and UPS. 2. Number of EEG Channels should be 32 with colour coding, and another eight channels for Polygraphy. Also any two channels can be configured as Bipolar, AC or DC through software 3. Facility for simultaneous sampling of all EEG channels and multiple sampling rates. 4. Photic Stimulator with software programmable for manual or automatic sequences. 5. Networking facility 6. DICOM compatible.			
3.2	Technical Specifications: 1. 32 Channel Amplifiers needed. 2. CMRR should be > 110 dB or better 3. Noise < 2uV peak to peak 4. Input Impedance > 100 Mohm 5. 16 bit ADC resolution voltage of 0.153 uV 6. Low filter adjustable between 0.16 to 5 Hz. 7. High Filter Adjustable between 50 to 100Hz. 8. Notch Filter Adjustable to softwares. 9. Acquisition Sensitivity from 1 microvolt per mm to 2000 microvolt per mm. 10. Networking facility.			
3.3	Acquisition Software: 1. Facility to combine all user defined settings into templates or protocol, for use in different applications. 2. Facility for Individual Channel Control, Customization of Montages, along with Remontage Capabilities. 3. Should display a graphical view of the current montage during the EEG recording. 4. Facility to define New Sensors should be possible as standard i.e. assign to amplifier inputs, define traces in a montage, define calculated channels (Average, Source/Laplacian), or define trends. 5. Facility to click any point to display corresponding traces & Slide pointer to change displayed duration of the Overview. 6. Facility for sort able list of all events placed in the recording, both automatically and manually. 7. Facility to review and add events to recorded traces. 8. Facility for automatic time counters and event insertion during Hyperventilation. 9. Facility to control display Sensitivity for User defined value. 10. Facility to file zip. 11. Facility of configurable Time Base. 12. Spike & Seizure detection software			
3.4	Review Software: 1. Paging facility as Automatic Paging, Mouse controlled Paging and/ or Keyboard Paging. 2. Playback of EEG for one or more channels. 3. Facility for Zoom/ Magnify EEG trace. 4. Facility for Copy & Paste of EEG or Trends to reports and presentations. 5. Facility for viewing several recordings in tiled or cascading windows.			
3.5	Patient Administration Software: 1. Network supported patient and test management software, archive to CD or DVD, powerful search, patient folder, workspaces.			
3.6	Should have an option of upgrading the digital EEG to Video EEG with day/night camera using MPEG-2 3rd generation technology			

3.7	**Should be used for Intra-operative monitoring and epilepsy surgery.**

4 System Configuration Accessories, spares and consumables

4.1	System as specified
4.2	Accessories should include: 1.EEG Cable(with extra one cable) with connections and 5 sets of Electrodes. 2. 100 boxes of conducting paste for EEG 3. 5 sets of Medium, small and large caps. 4. Customized Trolley 5.All mountings. 6. Re-writable DVDs-**1000Nos**. and paper for 1000 EEGs.
4.3	Compatible Laser Printer with 600 DPI Resolution and A4 Size printing facility.-01
4.4	The prices of the following accessories should be quoted and should be frozen for 5 years after the warranty period: 1. EEG cable and its connections. 2. EEG electrodes. 3. EEG Conduction pastes.

5 Environmental factors

5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%
5.2	The unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of less than 70%

6 Power Supply

6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	Resettable over current breaker shall be fitted for protection
6.3	Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)
6.4	Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.

7 Standards, Safety and Training

7.1	Manufactures/Supplier should have ISO certificate to Quality Standard.
7.2	Should be compliant with IEC 61010-1:(or any international equivalent e.g. EN/UL 61010) covering safety requirements for electrical equipment for measurement control and laboratory use
7.3	Should be FDA, CE, UL or BIS approved product
7.4	Comprehensive training for lab staff and support services till familiarity with the system at site.
7.5	Shall be certified to be meeting the safety standards IEC- 60601-2-26 PART 2: Particular requirements for safety of EEG Systems.

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied in English.
8.2	Certificate of calibration and inspection.
8.3	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
8.4	List of important spare parts and accessories with their part number and costing
8.5	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.
8.6	Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue/data sheet. Any point ,if not substantiated with authenticated catalogue/manual, will not be considered.

Schedule no:32

Equipment Specifications for Low End ELISA READER

1 Description of Function

1.1 ELISA Reader is required to Read the Colour Density known as OD(Optical Density) in ELISA (Enzyme Linked Immuno-Sorbent Assay.)Plates.

2 Operational Requirements

2.1 Only ELISA Reader is required.

3 Technical Specifications

3.1 OPTICAL SYSTEM
Digital light control
8 measurement channels including 1 reference.
Single and dual wavelength measurement with facility for kinetic measurement
8 s maximum measurement time for single and dual wavelength and 5 s(+/_1Sec.) for kinetic
Measurement Range 400-700nm
Indication Range 0-2.999 abs
Accuracy Plus/Minus 2% or Plus/Minus 0.005 abs
Resolution 0.001 abs
Inbuilt Filters: Narrow band interference
Should have the following filters – 405, 450, 492(+/_2nm), 540, 620 (+/-10nm) and 690 nm
Should measure end point, curves and kinetic.

3.2 SOFTWARE:
Storage of immediately preceding measurement At least 15 user programmable tests permanently stored
Time programmable between each measurement. Agitation programmable before each reading
Bidirectional printer interface.
Data memory not less than 100 plates/curves
Built in Windows based software programming software.

3.3 MEASUREMENT MODES
Plate shaking mode for sample mixing selectable speed and time)
Flexible blank mode setting
Matrix Modes: Matrix -/x/t, Matrix-/0-0 (Range),
Matrix-/f/(Floating cut off)
Difference Mode: Absorbance of each well in even numbered subtracted from those of odd numbered columns
Curve fit Modes: LIN/LIN.LIN/LOG.LOG/LOG or auto curve transformation with ability to add the standard curve; 8 to 12 way string orientation or kinetic modes
Table of optical densities, Delta DD, Graphic, Reaction rate/V-Max

3.4 Adjustable for different micro plate geometrics

3.5 Halogen Lamp 20 - 40 W.

3.6 16 digit alphanumeric fluorescent display

3.7 Membrane keyboard.

4 System Configuration Accessories, spares and consumables

4.1 System as specified-

4.2 Halogen Lamps : 2

4.3 Printer inbuilt or external to be supplied along with 10 Rolls/Z Fold

4.4 Dust cover.

5 Environmental factors

5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%

5.2 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug

6.2 Resettable over current breaker shall be fitted for protection

6.3 Suitable voltage corrector/stabilizer

6.4 Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.

7 Standards and Safety

7.1 Comprehensive training for lab staff and support services till familiarity with the system.

7.2 Three years warranty, 5 yrs comprehensive AMC should be available with service centres in close proximity.

7.3 Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.

7.4 Should be FDA or CE or ISI approved product

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied

8.2 Certificate of calibration and inspection from factory.

8.3 List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.

8.4 List of important spare parts and accessories with their part number and costing.

8.5 Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist.
The job description of the hospital technician and company service engineer should be clearly spelt out

Schedule No: 33

Equipment Specifications for High End ELISA READER with washer

1 Description of Function

1.1 ELISA Reader is required to Read the Colour Density known as OD(Optical Density) in ELISA (Enzyme Linked Immuno-Sorbent Assay.)Plates.

2 Operational Requirements

2.1 Only ELISA Reader is required.

3 Technical Specifications

3.1 OPTICAL SYSTEM
Digital light control
8 measurement channels including 1 reference.
Single and dual wavelength measurement with facility for kinetic measurement
8 s maximum measurement time for single and dual wavelength and 5 s(+/_1Sec.) for kinetic
Measurement Range 400-700nm
Indication Range 0-2.999 abs
Accuracy Plus/Minus 2% or Plus/Minus 0.005 abs
Resolution 0.001 abs
Inbuilt Filters: Narrow band interference
Should have the following filters – 405, 450, 492(+/_2nm), 540, 620 (+/-10nm) and 690 nm
Should measure end point, curves and kinetic.

3.2 SOFTWARE:
Storage of immediately preceding measurement At least 15 user programmable tests permanently stored Time programmable between each measurement. Agitation programmable before each reading Bidirectional printer interface.
Data memory not less than 300 plates/curves
Built in Windows based software programming software.

3.3 MEASUREMENT MODES
Plate shaking mode for sample mixing selectable speed and time)
Flexible blank mode setting
Matrix Modes: Matrix -/x/t, Matrix-/0-0 (Range),
Matrix-/f/(Floating cut off)
Difference Mode: Absorbance of each well in even numbered subtracted from those of odd numbered columns
Curve fit Modes: LIN/LIN.LIN/LOG.LOG/LOG or auto curve transformation with ability to add the standard curve; 8 to 12 way string orientation or kinetic modes
Table of optical densities, Delta DD, Graphic, Reaction rate/V-Max

3.4 Adjustable for different micro plate geometrics

3.5 Halogen Lamp 20 - 40 W.

3.6 16 digit alphanumeric fluorescent display

3.7 Membrane keyboard.

3 .7 Technical Specifications for washer

3.1	Auto strip washer for 96 well plates / strips
3.2	1 x 8 strips/ 1x12 strips.
3.3	Dispensable wash volume 50 - 300 µl.
3.3a	Residual wash Volume -<0.5µl

3.4	Aerosol Shield for user safety.
3.5	In built shaking facility

4 System Configuration Accessories, spares and consumables

4.1	8-12 channel manifold, all tubing sets, wash, rinse and waste bottles
4.2	Maintenance kit to be provided.

4 System Configuration Accessories, spares and consumables

4.1 System as specified-

4.2 Halogen Lamps : 2

4.3 Printer inbuilt or external to be supplied along with 10 Rolls/Z Fold

4.4 Dust cover.

5 Environmental factors

5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%

5.2 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug

6.2 Resettable over current breaker shall be fitted for protection

6.3 Suitable voltage corrector/stabilizer

6.4 Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.

7 Standards and Safety

7.1 Comprehensive training for lab staff and support services till familiarity with the system.

7.2 Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.

7.3 Should be FDA or CE or ISI approved product

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied

8.2 Certificate of calibration and inspection from factory.

8.3 List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.

8.4 List of important spare parts and accessories with their part number and costing.

8.5 Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out

Schedule No: 34

Equipment Specifications for Fully Automatic, Walk away High End ELISA/IMMUNOASSAY Analyzer

1 Description of Function	
1.1	ELISA System is required to Read the Colour Change in ELISA Plates/strip, automatic programmable washing & dispensing system high throughput.
2 Operational Requirements	
2.1	Fully Automated ELISA System with 4 Micro plates assays modular design for reader, washer & incubators.
2.2	Integrated Robotic sample processor. Should have an open system for different makes kits & manual over ride.
3 Technical Specifications	
3.1	Predilution facility should be present
3.2	Random access, provision for multiple assays.
3.3	Parallel sample pipetting should be present
3.4	6 filters with a minimum range of 405-690 nm are required.
3.5	Minimum 12 measurements.
3.6	Deleted
3.7	Volume of wash liquid dispensed variable & adjustable.
3.8	User friendly software with option for manual intervention
3.9	Residual volume/ well should be <3µl
3.10	User friendly software with option for manual intervention
3.11	Temp. range-room temp to 45 deg C +/- 1 C.
3.12	Plate incubator.
3.13	Liquid & Clot/foam/bubbles detection should be present.
3.14	Colour monitoring check should be provided
3.15	There should be no carryover of sample.
3.16	Password protection to prevent unauthorized person's access to software.
3.17	Printer to provide printed reports of tests. Patient name, ID keyboard entry & individual report printouts in preset format.
3.18	Teflon coated metal probes.
3.19	Facility to store at least 50 assay protocols
3.20	Facility to program samples, standards and controls in replicates
3.21	Display of assay scheduling, start and finish times
3.22	Automatic Quality Control Equations like Westgard rules, Levy Jennings charts.
3.23	Curve fits like Cubic Spline, Sigmoid, Polygon, LogLog, 4-parameter, point to point, Linear, Quadratic, spline, lin/log.
3.24	Reader Specification Dynamic Range 0.0-3.0 OD Precision <2% CV (2-3.0 OD) Linearity +/- 1% (<2.00 OD) Accuracy +/- 0.005 OD or 2.5%
3.25	Washer Specifications – Manifold configuration 8-Way Wash cycles possible – not less than five

3.26	Incubator Specifications – Temperature minimum range 25 - 40°C Temperature accuracy +/- 1°C Facility for shaking
3.27	Sample pipetting – Precision at 25ul <3% CV Accuracy at 25 ul +/- 2% Dispensing volume minimum 5 µl
3.28	Reagent Pipetting – Reagent Pipetting precision <3% CV Reagent Pipetting Accuracy +/- 2%

4 System Configuration Accessories, spares and consumables

4.1	System as specified-
4.2	All consumables required for installation and standardization of system to be given free of cost.
4.3	20 nos. uncoated micro well plates to be supplied

5 Environmental factors

5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%

6 Power Supply

6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	Resettable over current breaker shall be fitted for protection
6.3	Suitable voltage corrector/stabilizer
6.4	Suitable UPS with maintenance free batteries for minimum one hour back-up should be supplied with the system.

7 Standards and Safety

7.1	Comprehensive training for lab staff and support services till familiarity with the system.
7.2	Three years warranty, 5 yrs comprehensive AMC should be available with service centres in close proximity.
7.3	Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.
7.4	Should be FDA or CE or ISI approved product

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied
8.2	Certificate of calibration and inspection from factory.
8.3	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
8.4	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.
8.5	List of important spare parts and accessories with their part number and costing.

Schedule No:35
Extracorporeal Shock Wave Lithotriptor (E.S.W.L) High End

1 Description of Function

1.1 Renal extracorporeal lithotripter systems no invasively disintegrate kidney stones with focused shock waves, allowing the resulting sand-size fragments to pass out of the body during urination.

2 Operational Requirements

2.1 Completely integrated system with Fluoroscopy and Ultrasound guided stone localization and targeting along with digital documentation and patient data management system is required. The system should be compatible with Hospital Information System (HIS - VII).

3 Technical Specifications

3.1 Shockwave Generator:

Type: Electromagnetic

Triggering: Manual, Automatic & ECG gating.

Pulse Frequency: = 60 – 120 per minute (User Selectable)

Penetration Depth>=**140** mm

Pressure at focus. Minimum 20 MPa or less, Maximum 50 MPa or more

Energy level: User Selectable & Variable

The Shock wave Generator should be guaranteed for minimum of one million shockwaves

3.2 Imaging System: Integrated non detachable Fluoroscopy

Should have high frequency generator and allow pulse fluoroscopy.

kV Range: 40-110 kV

mA Range: 4 – 8 mA

Focal Spot Sizes: Dual: 0.3/0.6 and 0.6/1.2

Image Intensifier Size: 9 inches.

Collimation: Motorized, Iris collimator.

Post Exposure Image Enhancement facility.

3.3 Imaging System Ultrasound: High resolution ultrasound system

Localization should be done through integrated Ultra-sound iso centric to the shock wave source with inline/outline transducer for best image quality

Transducer:

I)3.5 /5 MHz Convex Sector

II)Ultrasound system should be able to accept 6.0-7.5 MHz electronic biplane trans rectal probe.

Mode: B

Coupling arm to integrate the ultrasound probe with shockwave generator.

3.4 Patient Table System:

i) Fluoroscopy compatible motorized patient Table with Vertical, Longitudinal and lateral movements. Facility for tilt and Trendelenburg. Patient load capacity of app 150 Kg.

ii) The table should be provided with accessories suitable for urological endoscopic procedures

3.5 Fluoroscopic Imaging System: 17 inches LCD Display with data storage and image storage. Minimum storage would be 1000 images with 1024x1024x(12 bits)

3.6 Patient Monitoring: Monitoring of ECG, RESPIRATION, SpO2 and Arrhythmia.

3.7 Separate Remote Console with facility for:

i) Controlling imaging, computerized stone localization, targeting and shockwave parameters

ii) Patient monitoring

4 System Configuration Accessories, spares and consumables

4.1 System as specified

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 0-50deg C and relative humidity of 15-90%

5.3 Pre Requisites should be clearly spelt out in terms of room requirements, civil and electrical works.

6 Power Supply

6.1 Power input: 220-240V/ 50 Hz AC Single phase or 380-400V AC 50 Hz Three phase fitted with appropriate Indian plugs and sockets.

6.2 Suitable UPS with 30 Min backup

7 Standards, Safety and Training

7.1 Should be **US FDA approved (Enclosed Copy)**

7.2 Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.

7.3 Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements

7.4 Comprehensive training for lab staff and support services till familiarity with the system.

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied in English.

8.2 Certificate of calibration and inspection.

8.3 List of Equipments available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service/technical manual.

8.4 List of important spares and accessories with their part number and costing.

8.5 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

Schedule No: 36

Electro Surgical Generator with Argon Beam Coagulation.

1 Description of Function

1.1 ESUs are used for surgical cutting and for controlling bleeding by causing coagulation (haemostasis) at the surgical site. They deliver high-frequency electrical current through an active electrode tip, causing desiccation, vaporization, or charring by resistive heating in the target tissue. Using argon gas to enhance electrosurgical coagulation allows for rapid haemostasis on bleeding surfaces of highly vascularized organs. Argon-enhanced systems are also used to control bleeding in other tissues, such as bone marrow, lung tissues, kidney and muscle

2 Operational Requirements

2.1 Microprocessor/Microcontroller technology with two or more generators

2.2 Demonstration of the quoted model is must

3 Technical Specifications

3.1 **Should have inbuilt argon gas coagulator with digital indicator to show gas level.**

3.2 Should provide mono polar cut in 4 or more levels, mono polar coagulation in 3 or more levels bipolar cut in 2 or more levels, bipolar coagulation in 3 or more levels or with automatic bipolar coagulation

3.3 Optional combined bipolar cutting and coagulation

3.4 Sinusoidal wave form

3.5 Activation by double pedal foot switch and hand switch

3.6 Activation of bipolar by foot switch and automatic start/stop system

3.7 Auto diagnosis on switching on and during working to continuously monitor all parameters

3.8 Automatic stoppage of output in case of malfunction with acoustic and visual signal with display of error code.

3.9 Output powers adjustable automatically or manually by membrane keys or push buttons

3.10 Four or more programmable memory for output settings

3.11 Simultaneous access to mono and bipolar by 2 or more users

3.12 Should be usable with laparoscopic mono polar and bipolar instruments

3.13 System for neutral plate safety by continuous monitoring of contact quality and connection

3.14 System for monitoring and control of leakage current

3.15 Frequency leakage on the patient should be less than 10 micro Amp.

3.16 **The unit should also indicate (Audio & Visual) when the residual gas is less than 10%**

4 System Configuration Accessories, spares and consumables

4.1 One extra argon gas cylinder.

4.2 The accessories should include portable trolley, mains cable, foot switches for mono and bipolar, reusable and single use neutral electrode for adults and children, cable for neutral electrode, fixing belt for neutral electrode (paed/adult), securing buttons for fixing belt, sterilisable and or disposable electrode handle with and without finger switch, cable for electrode handle, set of electrodes (long and short), electrode container with holder, tip cleaner, bipolar forceps, cable for bipolar forceps, cable for connecting to mono polar laparoscopic instruments

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%

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug

6.2 Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications. (Input 160-260 V and output 220-240 V and 50 Hz)

7 Standards, Safety and Training

7.1 Should be FDA/CE or BIS approved product

7.2 Manufacturer/Supplier should have ISO certification for quality standards.

7.3 Certified to be compliant with IEC 60601-2-2 Medical Electrical Equipment Part 2-2: Particular requirements for the safety of High Frequency Surgical Equipments

7.4 Comprehensive training for lab staff and support services till familiarity with the system.

7.5 Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied in English.

8.2 Certificate of calibration and inspection.

8.3 List of Equipments available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service/technical manual.

8.4 List of important spare parts and accessories with their part number and costing.

8.5 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

Schedule No: 37

ETO Sterilizer

1 Description of Function

1.1 "Ethylene oxide sterilizer" is defined as equipment which uses ethylene oxide as a biocide to destroy bacteria, viruses, fungus and other unwanted organisms. Ethylene oxide is used in sterilization of items that are heat and moisture sensitive

2 Operational Requirements

2.1 The ETO gas sterilizer should be fully automatic type for sterilization of heat sensitive goods such as anaesthetic tubing and other plastic disposable materials etc.

3 Technical Specifications

3.1 The sterilization chamber should be double walled, corrosion and gas resistant of suitable alloy. The inner surface should be smoothly finished to minimize gas deposits. The chamber shall be insulated against heat emission and the jacket shall be connected to the warm water circulation arrangement.

3.2 The sterilizer door shall have a quick release locking arrangement with door opening. Suitable safety interlocking arrangement shall be provided for the door so that the sterilization process does not start unless the door is properly locked in position and during the program run it should not open.

3.3 The sterilizer shall be provided with a suitable vacuum pump and gas trap to separate and evacuate the gas.

3.4 The sterilizer shall be provided with an automatic programmable panel with memory for preset operating sequence of all programs of operation. Monitoring instruments should be provided with the ETO for proper operation and monitoring of sterilizing process such as pressure manometer, thermometer, limit selector for temperature and pressure etc.

3.5 The ETO sterilizer should be able to operate for the minimum essential following cycles programmes:

a. Sterilization cycle for heat sensitive objects that ensure temperature from 40-75^{o} C with subsequent aeration for protection of the operating personnel.

b. Aeration cycle/program to extract residual gas out of the sterilized objects after each sterilization cycle.

c. Automatic chamber evacuation cycle with subsequent venting before releasing the door lock for opening, thereby prohibiting exposure of the operating personnel by gas dissolving from the chamber walls during shutdown period.

d. Gas disposal arrangement / catalytic converter.

3.6 Capacity: 7 -10 cubic feet/per cycle with capacity to process 18-20 cubic feet/24 hr. Firm should clearly state cycle time (Time from start to finish including aeration time) so that capacity to process total load in 24 hr can be calculated.

3.7 TECHNICAL DATA:

a. Sterilization gas: Ethylene oxide.

b. Sterilization method: Cold sterilization of heat sensitive materials.

c. Operating temp. Range: 40 to 75^{o} C

d. No. of doors: One.

4 System Configuration Accessories, spares and consumables

4.1 System as specified-

4.2 Sterilization basket of suitable size 1 No.

4.3 ETO gas cartridges 25 Nos.

4.4 Compressed Air Plant

4.5 Packing Material with Chemical Indicator of all sizes one roll each

4.6 Sealing Machine Heavy Duty - 1 No.

5 Environmental factors

5.1 The entire unit & Gas cartridges should be EPA (Environmental Protection Agency or certified for Government authority in India. Statutory concerned with Environment protection & occupational safety regulations applicable)

5.2 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.

5.3 The unit shall be capable of being stored continuously in ambient temperature of 0 - 50 deg C and relative humidity of 15-90%

5.4 The unit shall be capable of operating continuously in ambient temperature of 10 - 40deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 180-270VAC, 50Hz

6.2 On line UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.

7 Standards, Safety and Training

7.1 Shall meet International Organization for Standardization. Biological evaluation of medical devices. Part 7: ethylene oxide sterilization residuals [standard]. 1st ed. ISO 10993-7. 1995 (reaffirmed 2001). OR Any international/ National standard for ETO Safety.

7.2 Local Pollution Control Board clearance is mandatory.

7.3 Should be FDA /CE or BIS approved product

7.4 Manufacturer/Supplier should have ISO certification for quality standards.

7.5 Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied in English.

8.2 Certificate of calibration and inspection.

8.3 List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.

8.4 List of important spare parts and accessories with their part number and costing.

8.5 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

Schedule No: 38

Fully Automated System for Blood Grouping/ Cross Matching/ Antibody Typing

1 Description of Function	
1.1	Required for pre-transfusion testing
2 Operational Requirements	
2.1	The system should be able to perform forward / reverse grouping, antibody screening, antibody identification & cross match with walk away facility.
3 Technical Specifications	
3.1	Reagents should be compatible with the technology & the system provided.
3.2	Should be compatible with inbuilt processor & reader.
3.3	The throughput should be about 80 ABO Grouping , Rh Typing & about 100 Cross Matching per Hour
3.4	Should have provision for sample clot detection & low-level indicator.
3.5	Should be able to run any test in any order, in any combination.
3.6	Should have continuous & random access
3.7	Should have positive & negative controls run as a protocol.
3.8	Should be capable of processing hemolysed, lipemic or icteric samples.
3.9	All samples & reagents should be positively identified by bar code.
3.10	Should have facility to store data & compatibility with HIS.
3.11	Firm must also quote in the financial bid the cost per one complete set of test including the start-up & shut down consumption of reagents required by the system.
4 System Configuration Accessories, spares and consumables	
4.1	System as specified-
4.2	All media and consumables for setting up and standardization should be provided free of cost.
4.3	The reagent red cell panels for antibody screening & identification should be available with the company.
4.4	Reagents for 1000 ABO grouping & Rh (D) typing should be supplied free with the machine.
5 Environmental factors	
5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90%
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 - 40deg C and relative humidity of 15-90%
6 Power Supply	
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	Suitable Online UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.
7 Standards and Safety	
7.1	Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450

7.2	Comprehensive warranty for 2 years and 5 years CMC after warranty		
7.3	Manufacturer/Supplier should have ISO certification for quality standards.		
7.4	Should be FDA / CE / BIS approved product		
7.5	Comprehensive training for lab staff and support services till familiarity with the system.		

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	Certificate of calibration and inspection from Manufacturer.		
8.3	List of Equipments available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service/technical manual.		
8.4	List of important spare parts and accessories with their part number and costing available in stock with the supplier.		
8.5	Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out		

Schedule No: 39

FULLY AUTOMATIC RANDOM ACCESS CLINICAL CHEMISTRY ANALYZER with ISE Module

1. Fully Open, Random Access System: The instrument should be capable of all routine, STAT and special biochemical tests including specific proteins, therapeutic drugs (TDM), drugs of abuse, immunotubidemetric Assays and user definable applications in Blood, Serum or Urine. The Equipment should be configured as per consignee requirements.
2. Equipment must have a throughput of not less than 600 tests / hour with ISE
3. Must have ISE unit for Na, K, Cl, measurement.
4. Must have self diagnostic tests with error message & online display.
5. Must be programmable for all test menus & state of the Art Work Station.
6. Must have built in cooled Reagent Compartment to maximize reagent stability & have at least 50 positions for reagents.
7. Must have continuous loading of samples with on board capacity of at **least 40 permanent cuvettes with 5 years service life.** At least 20 cooled positions for calibrator and control.
8. Walk away time up to 4 hours.
   Should have Pre- & Post- Auto dilution of samples and Rerun Capability for out of range samples.
   Should have both internal & external Probe cleaning / washing facility
   Should accommodate at least 70 samples in single run.
   Probes should be long life of at least 24 months.
   Calibration must be Linear, Nonlinear, factor, exponential, spline, log-logit or with Auto diluted series of stock calibrator.
   Calibrator and control with repeat facility. Reagent Refill message & monitoring.
9. Automatic Printout of Reports, & full patient demographics
10. Probe Dispensers must have level detectors & separate probes for Samples & reagents R1 & R2.
    Cuvette mixing by variable speed at least two stirrers for immuno tubidometry tests
    Must typically use between 2-25 ul of sample.
    For Paediatric Samples minimum dead volume of sample cup not more than 20 ul
    Reading volume 200 µl or less. **Must have 7 or more step Cuvette cleaning facility. Must Have Minimum Water requirement of not more than approximately 20 Litres/ Hour only**
11. Should be capable of performing Endpoint, Kinetic, turbidimetric, homogeneous and bichromatic assay facility.
12. Should have a good real time QC programme with L - J graphs. Printout of QC charts & reports
13. Spectral Range - 340 to 800 nm by **diffraction grating optics**.
14. The Light Source – Halogen/Xenon Lamp should have low cost and very long life of not less than 24 months & no carryover. Low power consumption less than 1000 VA
15. Equipment should be supplied with External water treatment system, Compatible Servo Voltage Stabilizer & Compatible online UPS for Entire Machine with 1 hour battery backup.
16. Extensive Data Management Software:
    The equipment should be supplied with compatible, programmable

Windows based comprehensive data processing & management system.
Graphical user interface software, **LIMS Capability.**
Complete back up of the database for calibration control and patients sample results.
At least 20,000 patient result storage and Multitasking facility on Computer.

17. **Provision for Barcode reading facility.**
18. Personal computer:
The system should be supplied with a compatible Desktop PC (microprocessor with speed not less than 3.00 GHz, 512MB RAM, 80 GB HDD, 1.44 MB Floppy drive, 105 keys Board, scroll mouse, multimedia kit, 56 kbps modem 32 MB AGP Card, 52xCD CD-RW Drive, with 17" TFT Digital Colour Monitor) with compatible Operating system and compatible Dot matrix printer for documentation, with minimum 600 DPI resolution, not less than 12 pages per minute speed.
19. Complete circuit diagram & service manual & operating manual must be provided. Supplier must provide Original documentary proof of the date & place of manufacturing of supplied equipment otherwise the equipment will not be accepted by consignee.
21. Comprehensive & full training of all users by supplier for operating the equipment & trouble free maintenance at installation point.
22. The system should be supplied with necessary pre requisites & Start-up Kits, Normal & Abnormal QC & calibrators.
23. Please quote all the reagent kit for all the parameters as option.

Schedule No: 40

Uretero-Renoscope
(Semi Rigid)

1 Description of Function
1.1 Minimally invasive Fibre optic, endoscopic instrument for diagnosis and treatment of diseases of ureter and kidney.

2 Operational Requirements
2.1 Integrated fibre optic semi rigid ureterorenoscope for using in adult and paediatrics upper urinary tract endoscopic surgery

3 Technical Specifications
3.1 Long Arm (Length ~ 420mm)
Autoclavable with offset Eyepiece, Distal sheath tip **6.0** – 8 FR, 5-8 degree with working channel of **4** – 6FR. Irrigation channel and accessory Instruments including double instrument port with 425 mm working length.
-Grasping forceps **3 - 5**FR with working length 550 mm – 2 Nos.
-Biopsy forceps **3 - 5**FR with working length 550 mm
-Path finder plus bulb irrigator
3.2 Long Arm (Length ~ 420mm)
Autoclavable with offset Eyepiece, Distal sheath tip 6 – 6.5 FR, 5-8 degree with working channel of 4FR. Accessory Instruments including irrigation channel and instrument port.
-Appropriate Grasping forceps. – 2 Nos.
-Appropriate Biopsy forceps – 1No.
-Path finder plus bulb irrigator
3.3 Short Arm (Length ~ 320mm)
Autoclavable with offset Eyepiece, Distal sheath tip 6 – 6.5 FR, 5-8 degree with working channel of 4FR. Accessory Instruments including irrigation channel and instrument port.
-Appropriate Grasping forceps. – 2 Nos.
-Appropriate Biopsy forceps – 1No.
-Path finder plus bulb irrigator

4 System Configuration Accessories, spares and consumables
4.1 System as specified- along with light post adaptor for STORZ/ Olympus/ Wolf/**ACMI** light cable
4.2 All consumables required for installation and standardization of system to be given free of cost.
4.3 Appropriate Rigid Storage Box.

5 Environmental factors
5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90%
5.2 The unit shall be capable of operating continuously in ambient temperature of 10 - 40deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2 UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.

7 Standards, Safety and Training
7.1 Should be FDA/CE or BIS approved product
7.2 Manufacturer/Supplier should have ISO certification for quality standards.
7.3 Shall comply with IEC 60601-2-16 SAFETY requirements of medical electric equipment part2- particular requirements
7.4 Comprehensive training for lab staff and support services till familiarity with the system.

8 Documentation
8.1 User/Technical/Maintenance manuals to be supplied in English.
8.2 Certificate of calibration and inspection.
8.3 List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.
8.4 List of important spare parts and accessories with their part number and costing.
8.5 Log book with instruction for daily , weekly, monthly and quarterly maintenance checklist.
The job description of the hospital technician and company service engineer should be clearly spelt out

Schedule No:41

Equipment Specifications for Haemodialysis Machine

1 Description of Function

1.1 Haemodialysis is a method for removing waste products as well as free water from the blood when the kidneys are incapable of this.

2 Operational Requirements

2.1 Machine should have facility for Acetate, Bicarbonate and Sequential dialysis (Isolated UF).

2.2 Can be linked with Patient Data Management System and should be up gradable to future software developments

2.3 The blood pump should run even in the absence of water or dialysate flow.

3 Technical Specifications

3.1 Should have facility for conventional and High flux dialysis.

3.2 Deleted

3.3 Deleted

3.4 **Machine should have filter at thevwaterinlet**

3.5 Battery back-up for at least 30 minutes to run complete machine

3.6 Should have Na, Bicarbonate and UF profiling

3.7 Dialysate temperatures selectable between 35 degrees C to 39 deg. C

3.8 Variable conductivity setting between **13 to 15 ms/cm**

3.9 Should have minimum variable dialysate flow **300-700 ml/mt**

3.10 **deleted**

3.11 Heparin pump with syringe sizes up to 50 ml with pump flow rate from 1-10 ml/hr(0.1 ml increments)

3.12 **deleted**

3.13 Ultrafiltration 0.1 to 2.5 litres/hr. The in and out fluid circuit must be separated so that there is no chance of contamination in the event of membrane rupture.

3.14 **deleted**

3.15 Should have integrated heat (**80degree celsius**) and chemical disinfection facility.

3.16 Should have accurate feedback control conductivity mixing technique.

3.17 Should have drain facility.

3.18 Should have accurate UF control by flow measurement technique.

3.19 **deleted**

3.20 All important data should be preset so that machine can be used anytime without feeding data every time

3.21 Should have automatic self test facility

3.22 Should have auto ON/OFF Facility

3.23 Should have touch button screen **/menu driven soft keys**

3.24 **deleted**

3.25 **deleted**

3.26 Blood pump rate from 20-500 ml/min adaptable to all standard A-V blood lines

3.27 Ability to monitor pulse rate and NIBP.

3.28 **Should have air detector alarm with tube clamp for safety**.

3.29 **Should have**

Arterial pressure range- -250 to +280 mm of Hg

Venous Pressure range- 0 to 380 mm of Hg

Tran membrane pressure range- 0 to 400 mm of Hg

3.29 Audio visual alarms on limit violation of conductivity, blood leak, air leak, Tran membrane pressure alarms, **arterial and venous pressure alarms** Dialysis temperature alarm, dialysis can empty alarm, end of disinfection alarm, bypass alarm and blood pump stop alarm

3.30 Alarm for reverse Ultra filtration.

4 System Configuration Accessories, spares and consumables

4.1 System as specified-

4.2 All consumables required for installation and standardization of system to be given free of cost.

4.3 To be supplied free of cost

Filters-2 nos, polysulfone 1.4 m2 dialyzers -100 nos and tubings

5 Environmental factors

5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90%

5.2 The unit shall be capable of operating continuously in ambient temperature of 10 - 40deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug

6.2 On line UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.

7 Standards, Safety and Training

7.1 Should be FDA/ CE approved product

7.2 Manufacturer/Supplier should have ISO certification for quality standards.

7.3 **Shall comply with international electrical safety standards** (to be confirmed during predispatch inspection/at site during installation)

7.4 Comprehensive training for user and support services till they gain familiarity with the system.

7.5 Should have local service facility .The service provider should have the necessary equipment recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied in English (hard copy and soft copy as applicable at the time of delivery).

8.2 Certificate of calibration and inspection to be produced at the time of predispatch inspection/installation.

8.3 List of important spare parts and accessories with their part number and costing.

Schedule No: 42

Equipment Specifications for Dialysis Chair.

1 Description of Function

1.1 Haemodialysis Chair is used for administrating dialysis to the patients comfortably.

2 Operational Requirements

2.1 Should be ergonomically designed and comfortable to the patient

2.2 Should allow the patient to rest in full sitting position and lying position.

3 Technical Specifications

3.1 Should have electronically controlled adjustments for back section, leg section and height.

3.2 Should have a patient hand set with controls for all positions.

3.3 **deleted**

3.4 Armrest should fold to allow side entry of the patient.

3.5 Head rest should be detachable and should have manual Trendelenburg facility.

3.6 Seat cushion should be removable, made of proper density foam and should have a smooth surface for easy hygiene and cleaning.

3.7 Frame should be made up of corrosion free galvanized steel with powder coating and should have four 150mm dia swiveling castor wheels of which the front two should be lockable

3.8 Should be able to withstand a maximum load of 150 Kg.

3.9 Should have facility for online weight measurement (optional).

3.10 Dimensions(approx) :Width 63 cm x Length 195 cm (fully stretched) x Adjustable Height (Min 56 cm; Max 78 cm from ground)

3.11 Rubber buffers are to be provided

3.12 Should have a detachable drip stand and a tray table.

4 System Configuration Accessories, spares and consumables

4.1 System as specified-

5 Environmental factors

5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%

5.2 The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug

6.2 Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)

7 Standards, Safety and Training

7.1 Should be FDA/ CE approved product

7.2 Manufactures/Supplier should have ISO certificate to Quality Standard.

7.3 Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.

7.4 All electrical actuators and mechanisms should be housed inside the structure making the product safer

7.5 Electrical safety conforms to international standards.

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied in English.

8.2 Certificate of calibration and inspection.

8.3 List of important spare parts and accessories with their part number and costing

8.4 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

8.5 User list to be provided with performance certificate.

8.6 List of Equipments available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service/technical

Schedule No: 43

Ultrasonic Surgical Unit

1 Description of Function	
1.1	Ultrasound is the basis for an efficient surgical instrument: the Ultrasonic Surgical Unit cuts and coagulates by using lower temperatures than those used by electro surgery or lasers. It should control bleeding by coaptive coagulation at low temperatures ranging from 50°C to 100°C: vessels are coapted (tamponaded) and sealed by a protein coagulum.
2 Operational Requirements	
2.1	The system is required for General, Cardiovascular Surgery as well as Neurosurgical Procedures.
3 Technical Specifications	
3.1	1. Ultrasonic generator generating ultrasound at approx 22 - 55.5 kHz frequency 2. Hand-piece with in-built transducer: Permanently housed in hand piece. 3. Oscillating System: Piezoelectric. 4. Cart to house the generator and accessories 5. Dual foot-switch attachment 6. Stand-by mode for better safety 7. System diagnostics and trouble shooting guide 8. Warning system for malfunctioning cable, probe etc 9. Power entry filters to suppress electromagnetic disturbances to monitors
4 System Configuration Accessories, spares and consumables	
4.1	**A) Accessories** 1. Foot-switch with max and min pedals and cable. 2. 5 mm blade system adopter 3. Hand switch adopter **B) Probes** **All Different Probes for General, Cardiovascular and Neurosurgical Procedures should be quoted. (Unit rate to be quoted separately)**
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 -40deg C and relative humidity of 15-90%
6 Power Supply	
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.
7 Standards, Safety and Training	
7.1	The generator must be CF isolated applied device and defibrillator protection must be available.
7.2	Should be FDA , CE or BIS approved product
7.3	Manufacturer should have ISO certification for quality standards.
7.4	Deleted
7.5	Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450
7.6	Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.
8 Documentation	

8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	Certificate of calibration and inspection.		
8.3	List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.		
8.4	List of important spare parts and accessories with their part number and costing.		
8.5	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.		
8.6	Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.		

Schedule No: 44

Heart lung machine with accessories (Advance Version)

1. Description of function

1.1 Heart Lung Machine is an apparatus through which blood is temporarily diverted, during heart surgery, to oxygenate it and pump it throughout the body, thus maintaining circulation until the heart and lungs are able to return to normal functioning

2. Operational requirements

2.1 BASIC EQUIPMENT will consist of the following unit

1) 5- Pump Console
2) Temperature Control Module (Hypo-Hyper thermia unit)
3) Monitors:
   a) Pressure monitor – arterial and cardioplegia with transducers
   b) Time – at least four timers
   c) Temperature Monitor with at least two probes
   d) Display of total volume of each infusion along with delivery time for two pumps.
4) a). Air- Oxygen Blender with hoses and Flow meter

5) Safety Devices –
   a) Level Sensor
   b) Ultrasonic air sensor

2.2 ACCESSORIES will include

1. Stainless steel line clamps
2. Stainless steel intra cardiac suckers
3. Instrument tray with mounting arm

4. Electronic Venous Occluder

3.1 5- Pump Console

1. The unit should have 5-pump console compactly arranged with separate power supply and control modules. Should have easy access connectors for interchanging the pump.
2. Pulsatile module should be provided with at least two pumps.
3. Each individual roller pump should be capable of running independently on 180-270 V/50- 60 Hz supply.
4. Should have a spill proof base.
5. The unit should be supplied with a Battery backup for at least two pumps, all safety systems and accessories for a minimum of 60 minutes. Switch over from main power to battery backup should be automatic and immediate. The battery unit should be built in to the pump base and it should be recharged automatically when the system is operating with main power supply.
6. Individual pump heads should have Harvey Roller pumps with facility for tubing to be used adjustable from ¼" to 5/8" through 3/8" and ½" by easily changeable mechanism.
7. Individual pump heads should have display in digital – Flow rates in LPM and in RPM. The total infusion volume in litres and delivery time should be displayed in at least two pumps.
8. Each Pump should have easy mechanism for occlusion setting for different thickness of tubes available in the market, 1/32" to 3/32".
9. Should have unidirectional hand crank facility as a critical safety feature hand crank loading should be from top for faster access.
10. The Console should have a compact base mount for the entire pump heads together, with pole and handles.
11. Should have variable, changeable tubing holders in each pump head:1/4", 3/8", ½", 5/8" and double ¼".
12. Should have movable oxygenator holder.
13. Roller pump should have a self diagnostic circuit with provision to detect and display critical alarm conditions.

3.2 Should have a venous control module with single pole mast with electronic venous line occluder.

3.3 Should have a monitor mount with adjustable monitoring arm

3.4 Instrument tray positionable with long monitoring arm

3.5 Lightweight surface table; writing surface

3.6 MONITORS:

PRESSURE MONITOR: Facility to monitor one arterial line pressure and one cardioplegia line pressures (total 2); along with necessary pressure transducers, cables six (2 x 3 = 6) and domes reusable, with accurate digital display and alarm facilities audio and visual.

TIME MONITOR: Facility for 4 time displays -- 2 for arterial and 2 for cardioplegia delivery. With stop, reset and start function.

TEMPERATURE: 6 temperature displays for patient monitoring and for cardioplegia monitoring with digital display in Celsius with 6 necessary compatible temperature 6 probes and 6 additional probes (6x2=12 probes) with 3x2 = 6 of them for nasal, rectal and oesophageal use

3.7 AIR- OXYGEN BLENDER:

To work at 50-60 PSI for membrane oxygenator with water trap attached with necessary hoses and connections of minimum of 5 meters length and with triple flow glass flow meters.

3.8 SAFETY DEVICES: Safety monitor should have optional capability for computer interface to retrieve perfusion data

ULTRASONIC AIR SENSOR: Ultra sonic air sensor to detect bubbles to work equally well with crystalloid and blood; should be possible to fit anywhere in the circuit easily.

LEVEL SENSOR SYSTEM: Ultrasonic transducers to work well with crystalloid and blood with adhesive pads, with alarm settings.

3.9 TEMPERATURE CONTROL MODULE:

TEMPERATURE CONTROL AND MONITOR SYSTEM WITH CARDIOPLEGIA SUPPLY AND REMOTE TEMPERATURE DISPLAY: with the following features:

1. Simultaneous delivery of water for arterial and cardioplegia heat exchangers and to thermal blankets to be available from suitable ports.
2. To work with power supply of 220± 20 V 50 Hz.
3. Pressure regulated blanket ports maintaining the temperature of the arterial port.

4. Temperature display range of 0- 50 ° Celsius; remote accuracy of 0.3 ° Celsius and remote temperature display unit module with 3-temperature display.
5. Microprocessor based unit to control, cool, rewarm and maintain temperature.
6. Water outlet temperature of heat exchanger and blanket range 0-42° C.
7. Maximum flow performance of oxygenator heat exchanger supply port 15 – 22 LPM for fast cooling; 480mmHg maximum pressure; Blanket 1.5 to 2.5 LPM at zero head.
8. Built in lce Maker to provide 50 lbs of ice in about 8 hours from 25^{o} C water.
9. Should be capable of providing ice water for cardioplegia independently with variable cooling rate
10. Rewarming facility with venous difference mode settable at 6 to 10 ° C gradients to hold the water bath temperature at higher than the venous blood temperature.
11. Temperature probe module for the operating ranges of 0-50° C.
12. Temperature probes to fit in standard oxygenators (bubble / membrane)

3.10 ACCESSORIES

1. STAINLESS STEEL LINE CLAMPS for cardio pulmonary bypass 12 Nos.
2. INSTRUMENT TRAY WITH MOUNTING ARM
3. AT LEAST ONE THERMAL BLANKET.
4. ON LINE MEASUREMENT OF PH, PCO2*& HB FOR NEONATAL CARDIAC SURGERY
5. Machine Cover
6. System should be provided with appropriate furniture like adjustable revolving chair for the perfusionist to operate the system. The system should contain all the above accessories in Integrated or as separate accessories.

4. Environmental factors

4.1 The unit shall be capable of operating continuously in ambient temperature of 10 -40^{0} C and relative humidity of 15-90%

4.2 The unit shall be capable of being stored continuously in ambient temperature of 0 -50^{0} C and relative humidity of 15-90%

4.3 Shall meet IEC-60601-1-2:2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.

5. Power supply

5.1 Should be able to function under Indian Power Conditions of 220 - 240V, 50 Hz., with appropriate power conversions and adaptors.

5.2 Resettable over current breaker shall be fitted for protection

5.3 Suitable UPS of with voltage regulation and spike protection for at least 60 minutes back up.

6. Standards, safety and training

6.1 Should be FDA / CE or BIS approved product

6.2 Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450

6.3 One engineer should be posted for a week to impart training

6.4 Manufacturer should have ISO certification for quality standards.

7. Documentation

7.1 User manual in English

7.2 Service manual in English

7.3 List of important spare parts and accessories with their part number and costing available in stock with the supplier.

7.4 Certificate of calibration and inspection from factory.

7.5 Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out

7.6 List of Equipments available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service/technical manual

Schedule No: 45

Equipment Specifications for HPLC System High End

1 Description of Function

1.1	High-performance/Pressure liquid chromatography (HPLC) is a form of column chromatography used to separate components of a mixture by using a variety of chemical interactions between the substance being analyzed (analyse) and the chromatography column.

2 Operational Requirements

2.1	System should be complete with columns, binary gradient pump, mixer, detector along with state of the art PC with software for chromatography management

3 Technical Specifications

3.1	Binary gradient pump: (2 no) Integrated binary gradient system with dual piston pump with automatic plunger cleaning system. Flow precision 0.1% RSD. Programmable flow rate range from 0.001 to 10 ml/min with 0.01 ml/min increments. Composition accuracy ± 0.5%. precision:< 0.5% RSD. Maximum pressure: 6000psi at all flow rates. Safety and maintenance aids: extensive diagnostic error detection and display. No of eluents: 2. Flow accuracy± 1%. Software programmable high and low pressure limits. Software initiated purge functions. Delay volume: < 200 µl. Built in Master/ Slave function. Solvent Selection valve facility.
3.2	Gradient mixer: (1no)
3.3	Manual injector: (1no) Rheodyne injector with 20µl loop and mounting bracket Additional loops of 5, 50,100 & 200 µl to be included.
3.4	Fluorescence detector (1 no.) 1. Sensitivity :S/n ratio better than 350 :1 2. Light source : Long life Xe Lamp 3. Holographic Concave Diffraction Grating Monochromators for both Excitation & Emission 4. Wavelength range: settable from 200 – 900 nm for Ex. & Em. With rapid scan feature. 5. Spectra bandwidth: Fixed for Ex & selectable for Em. 6. Wavelength accuracy: ± 2.0 nm or better 7. Capable of self diagnostics & error message. 8. Must have a temperature compensation facility
3.5	Dual beam UV visible absorbance detector (1 no) Wavelength range: 190-900nm. Light source: Deuterium with warranty of 2000 hrs. Noise: < ***+/- 0.5 X 10^{-4} AU approx*** , dry cell, 254nm. Drift 1x10-4 AU/hr. Accuracy ± 1nm. Measurement range: +/-0.35X1X10-5 to +/-0.25X10-5 AUFS. Bandwidth: 5 to 8 nm. Flow cell: 10µl. time programmable: wavelength, polarity, lamp on/off. Online LCD display of chromatograms/ spectra or through real time PC Software.
3.6	Chromatography manager: (1no) Microprocessor of speed not less than 3 GHz, computer with 1GB RAM, 80GB hard disk drive, 1.44MB floppy drive, 52XCD-ROM R/W drive, Windows, 17" flat colour monitor, colour laser printer, with the following features: • Control, acquire & process data. • Interactive control and display of solvent delivery. • All functions and features accessible from a single window – use the command bar to navigate. • Wizard to simplify and automate common system functions. • Methods – instrument, processing & reporting parameters in one place. • Oracle database for better organization & easy retrieval or work and system user data. • Diagnostic functions & configuration wizards. • Extensive user help.

3.7	Columns a. C-18, 5u, REVERSE PHASE COLUMN, (4.6x 250mm) – 10Nos b. C-8, 5u, REVERSE PHASE COLUMN, (4.6x 250mm) – 10Nos
3.8	Guard columns- 3/pack for each column.
3.9	Compatible External Ultrasonic degasser bath (1 no.)
3.10	Compatible Water purification system to generate grade-1, purified water suitable for HPLC applications as per ISO specifications Standards.
3.11	Electro – Chemical Detector having working electrode and reference electrode compatible with clinical biochemistry applications. (1 no.)
3.12	Column heater/ Oven (1 no): • Temperature range: 20º C to 60º C • Temperature accuracy: ± 0.8º C. • Temperature precision: ±0.25ºC Column capacity: minimum 2 columns with guard columns
3.13	Filtration accessories: a. Solvent clarification kit with vacuums pump. b. Sample clarification kit (Aqueous & organic)
3.14	System should have installation kit for each module.
3.15	Quotations (Rates) for pre validated HPLC kits for each of the following mentioned below should be supplied along with necessary columns and peripherals. 1. Vitamin A & E in Serum 2. Vitamin B1, B2, B6 in whole blood. 3. Vitamin C in Plasma 4. 25 – Hydroxy Vitamin D3 in Serum 5. Glycated Hb in whole blood 6. Homocysteine in Plasma 7. Biogenic Amines in Serum 8. Beta Thalassemia screening in whole blood

4 System Configuration Accessories, spares and consumables

4.1	As specified

5 Environmental factors

5.1	Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS or equivalent International Standards) General Requirements of Safety for Electromagnetic Compatibility.
5.2	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
5.3	Thu unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of 80%.

6 Power Supply

6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	Suitable Servo controlled Stabilizer/CVT
6.3	Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.
6.4	Reset table over current breaker shall be fitted for protection

7 Standards and Safety

7.1	Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450

7.3	Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied
8.2	Certificate of calibration and inspection from factory.
8.3	List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.
8.4	Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out
8.5	Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue.
8.6	List of important spare parts and accessories with their part number and costing. Available in stock with the supplier.

Schedule No: 46
Equipment Specifications for Hot Air Oven

1 Description of Function

1.1 Hot Air Oven is required for heating a sample undercontrolled conditions.

2 Operational Requirements

2.1 Microprocessor based system with PID-temperature controller with integrated auto diagnostic system with fault indicator.

2.2 Thermostatically controlled system.

3 Technical Specifications

3.1 External: Stainless Steel Casing :Height 800-1050 mm, width 800-850 mm, depth 800-850 mm (All dimensions will have a tolerance of +/- 5mm).Insulated stainless steel door with locking and rear zinc-plated steel

3.2 Interior – 50-60 liter approx capacity (all dimensions will have a tolerance of 5 mm) easy-toclean interior, made of stainless steel, with supports on the three sides for three adjustable perforated stainless steel shelves.

3.3 Forced air circulation by quiet air turbine/Fan to ensure uniform temperature

3.4 Fitted with load indicator and safety thermostat take over indicator lamp. LCD/LED Indicator for continuous temperature monitoring

3.5 Temperature Variation +/- 1 deg C.

3.6 Temperature Range- ambient to 250 deg C.

4 System Configuration Accessories, spares and consumables

4.1 System as specified

5 Environmental factors

5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%

5.2 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug

6.2 Suitable voltage corrector/stabilizer

7 Standards and Safety

7.1 System should confirm to IS:6365-1971(Reaffirmed 1995) with latest amendments in ISI specifications for Laboratory Electric Ovens . Alternatively system should be FDA Approved or CE Certified.

7.2 Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450

7.3 Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that
perform their own design activities.

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied

8.2 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

8.3 List of important spare parts and accessories with their part number and costing.

8.4 Certificate of calibration and inspection from factory.

8.5 List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.

Schedule No: 47

Equipment Specifications for ICU Beds - Advanced Model.

1 Description of Function

1.1 ICU Beds are required in the Intensive Care for comfort & safety of the patient and to facilitate comfortable transfer to and fro emergency/OT/Wards etc. It is also required to carry out point of care procedures including radiological procedures at the bedside.

2 Operational Requirements

2.1 The system should be electrically operatable and adjustable for heights, trendelenburg etc.

2.2 Demonstration of the system is a must

3 Technical Specifications

3.1 Should have four section mattress base

3.2 Base frame & support frame should be made up of Stainless steel for long life & prevention from rusting.

3.3 Should have stepless electrical adjustment for the following:-

Height : 450-750 mm

Back section : 0- 50 degrees

Leg Section : 0-25 degrees

3.4 Should have stepless pneumatic or electric adjustment for Trendlenburg (15° approx), anti-trendlenburg (15° approx)

3.5 Should have a manual quick release mechanism for back section adjustment during emergency situation

3.6 Should be equipped with tuck away or sliding side rails

3.7 Should be equipped with large castors (diameter 125-150 mm) with central braking and steering facility.

3.8 Mattress of the Bed should be made up of high density foam with Anti Microbial agent incorporated into all components that assists in Prohibiting growth of bacteria & fungi and easy to clean.

3.9 Mattress should be fully Radiolucent for ease in performing portable X-Rays.

3.10 Should have bumpers at all four corners and place for fixing accessories

3.11 Dimensions of bed : (All values are +/_ 10%)

Length : 2200 -2290 mm

Width : 850 -1020mm

Mattress Size : appropriate as per bed size

4 System Configuration Accessories, spares and consumables

4.1 I.C.U Bed Mainframe heavy gauge sheet

4.2 Heavy Gauge & total weight of Bed

4.3 Bed Ends, detachable : 01 pair

4.4 Articulated tuck away or sliding side rails

4.5 IV Rods: 04 No.s

4.6 Mattress at least 12 cm Thick: 01 No.

5 Environmental factors

5.1 Shall meet IEC-60601-1-2:2001 (Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.

5.2 The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%

5.3 The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 180-270VAC, 50-60Hz as appropriate fitted with Indian plug

6.2 Resettable over current breaker shall be fitted for protection

7 Standards, Safety and Training

7.1 Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450

7.2 Should be FDA/CE or BIS approved product

7.3 Manufacturer should have ISO certification for quality standards.

7.4 Electric Shock Protection level-Class-B

7.5 Electric current Protection- Class -1

7.6 Certified to be compliant with IEC 60601-2-38 Medical Electrical Equipments part 2-38 Particular requirements for safety of Electrically Operated Hospital Beds

7.7 Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.

8 Documentation

8.1 Certificate of Calibration and inspection from the factory

8.2 List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.

8.3 List of important spare parts and accessories with their part number and costing

8.4 Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out

SCHEDULE NO.: 48

I.C.U Beds – Basic Model

1 Description of Function

1.1 ICU Beds are required in the Intensive Care for comfort & safety of the patient and to facilitate comfortable transfer to and fro emergency/OT/Wards etc. It is also required to carry out point of care procedures including radiological procedures at the bedside.

2 Operational Requirements

2.1 The system should be manually operable and adjustable for heights, trendelenburg etc.

2.2 Demonstration of the system is a must

3 Technical Specifications

3.1 Should have four section mattress base

3.2 Base frame & support frame should be made up of Stainless steel, pre-treated for prevention from rust & easy maintenance.

3.3 Should have manual adjustment for the following:-

Height: 450-750 mm

Back section: 0- 50 degrees

Leg Section: 0-25 degrees

3.4 Should have manual adjustment for Trendlenburg (15° approx), Anti-Trendlenburg (15° approx)

3.5 Should be equipped with tuck away or sliding side rails

3.6 Should be equipped with large castors (diameter 125 to 150 mm) with central braking and steering facility.

3.7 Mattress of the Bed should be made up of high density foam with Anti Microbial agent incorporated into all components that assists in Prohibiting growth of bacteria & fungi and easy to clean.

3.8 Mattress should be fully Radiolucent for ease in performing portable X-Rays.

3.9 Should have bumpers at all four corners, place for fixing accessories.

3.10 Dimensions of bed: (All dimensions are approximated to +/_ 10 % variations)
Length: 2200 -2290 mm

Width: 850 -1020mm

Mattress Size: appropriate as per bed size

4 System Configuration Accessories, spares and consumables

4.1 I.C.U Bed Mainframe heavy gauge sheet

4.2 Bed Ends, detachable: 01 pair

4.3 Tuck away or sliding side rails: 04 Nos.

4.4 IV Rods: minimum 02 Nos.

4.5 Mattress at least 12 cm Thick: 01 No.

5 Environmental factors

5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 -50^0 C and relative humidity of 15-90%

5.2 The unit shall be capable of operating continuously in ambient temperature of 10 - 40deg C and relative humidity of 15-90%

6 Standards, Safety and Training

6.1 Should be FDA or CE or BIS approved product

6.2 Manufacturer should have ISO certification for quality standards.

6.3 Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.

7 Documentation

7.1 Certificate of Calibration and inspection from the factory

7.2 List of important spare parts and accessories with their part number and costing

7.3 Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out

Schedule No: 49

Volumetric Infusion Pump

1 Description of Function

1.1	Volumetric Infusion Pump is a medical device that delivers intravenous fluids and medicine to patients in hospitals, outpatient surgical centres, hospices, nursing homes, and in ambulances

2 Operational Requirements

2.1	Programmable volumetric infusion pump is required.

3 Technical Specifications

3.1	Battery back-up operating time 5 hours.
3.2	LCD programming display
3.3	Data entry calculator style numeric programming keyboard
3.4	Pole clamp Multi-function mounting clamp
3.5	Nurse call output alarm, time and date settings
3.6	Quick titration of rate or dose with volume-time programming
3.7	Flow rate range (primary) 0.1 to 99.9 ml/hr. (0.1 ml increments) and 1 to 1000 ml/hr. (1ml increments.)
3.8	Deleted
3.9	Volume to be infused 0.1 to 99.9 ml (o.1ml increments) and 1 to 1000 ml(1 ml increments).
3.11	Both flow rates and volume to be infused should be configured to limit the maximum allowable range
3.12	RS232C/USB/RS485 output for Printer, PC connectivity and Data acquisition with selectable baud rate options should be there
3.13	Accuracy ±5%.
3.14	Deleted

4 System Configuration Accessories, spares and consumables

4.1	Compatible with standard infusion sets required with the unit should be supplied by the vender supplier and the same should be made available in local Indian market
4.2	1000 numbers of required infusion sets should be supplied with the

	single unit		

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 -50deg C and relative humidity of 15-90%		
5.3	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%		

6 Power Supply

6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug		

7 Standards, Safety and Training

7.1	Should be FDA or CE approved product		
7.2	Manufacturer/Supplier should have ISO certification for quality standards.		
7.3	Certified for meeting IEC 60601-1-4 Medical electrical equipment - Part 1-4: General requirements for safety - Collateral Standard: Programmable electrical medical systems		
7.4	Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements		
7.5	Degree of electrical shock protection Type CF/ Class-1.		
7.6	Fluid Ingress Protection- IP X1, Drip Proof		
7.7	Comprehensive warranty for 2 years and 5 years AMC after warranty		

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	Certificate of calibration and inspection from factory.		
8.3	List of Equipments available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service/technical manual.		
8.4	List of important spare parts and accessories with their part number and costing.		
8.5	Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist.		

	The job description of the hospital technician and company service engineer should be clearly spelt out		
8.6	Must submit user list and performance report within last 5 years from major hospitals.		

Schedule No: 50

IABP (Intra Aortic Balloon Pump) - High End.

1 Description of Function

1.1 Intra-aortic balloon pump (IABP) is a mechanical device that is used to decrease myocardial oxygen demand while at the same time increasing cardiac output. By increasing cardiac output it also increases coronary blood flow and therefore myocardial oxygen delivery.

2 Operational Requirements

2.1 Microprocessor / microcontroller based system. System should be complete with Display Control system and pneumatic drive unit.

3 Technical Specifications

3.1 Pneumatics:

Drive system: Stepper motor driven bellows or Pneumatics compressor based brushless DC Motor

Drive gas- Helium (Available with disposable canister or refillable cylinder.

Pumping Volume: 0.5 cc-50 cc Counter pulsation rate: 40-150 pulsations per minute

3.2 In Automatic Mode: System should be capable of automatically selecting appropriate trigger i.e. ECG or Pressure and also accurately select the inflation and deflation points, in automatic mode. In automatic mode of operation user should be in control of the deflation point. In Automatic mode Advance software should automatically adapt the timings for various rhythms and rate variations, without any user intervention. In Automatic mode it should automatically identify Arrhythmias and adopt R wave deflation mode for better patient support, without any user intervention In Manual mode the system allows user control of most of the pump functions.

3.3 Should be able to trigger on 7 mm Hg of Pulse pressure when used in Pressure Trigger mode

3.4 Single key start-up to make it fast, user friendly and easy to use

3.5 Should be able to display at least 3 wave forms as ECG, Invasive Pressure and Balloon Pressure wave forms

3.6 Large display for brighter and very good visibility from a distance in lighting conditions

3.7 On screen indication for Helium level in the cylinder and battery level for timely intervention and correction.

3.8 ECG inflation marker to indicate inflation period on ECG which can be useful when arterial pressure form is not available.

3.9 On screen indication of standby time and should give alarm after 15-30 minutes, to draw user's attention on the system being on standby

3.10 System should be approved for use on Paediatric patients.

3.11 Optical Blood leak detect for early indication of blood coming into the balloon lumen due to IABC leak

3.12 Should have extensive Help Text available during start-up to make the system easy to use even for new users.

3.13 Should give extensive Help messages to correct the alarm conditions that are specific to the alarm condition. This should help the user to overcome the alarm problems immediately and with ease.

3.14 Should be capable of removing condensation automatically without user intervention and should be maintenance free.

3.15 Deleted

3.16 Should have automatic Altitude correction to make it safer for the use during Air Transport

3.17 Should have software which allows the user to monitor the IABP from any remote location via a modem

3.18 In-built Comprehensive Service Diagnostics to help the technician to locate the fault immediately

3.19 Should have capability to connect on the Hospital network

3.20 Integrated Printer OR Chart recorder to print the reports.

4 System Configuration Accessories, spares and consumables

4.1 System as specified-

4.2 System should be supplied with the following:

ECG cable with Refillable Helium cylinder compatible with the IABP system Qty: 3 Nos.

4.3 Intra Aortic Balloon Catheter for Adults, Size: 30 to 40 cc Qty: 4 Nos.

Reusable Invasive Blood pressure transducer system with pressure flush device system. Qty: 2 Nos.

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 - 50deg C and relative humidity

5.3 The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 170-270 V AC, 50Hz fitted with Indian plug

6.2 On line UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.

7 Standards, Safety and Training

7.1 Should be FDA/ CE or BIS approved product

7.2 Manufacturer/Supplier should have ISO certification for quality standards.

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied in English.

8.2 Certificate of calibration and inspection.

8.3 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

8.4 List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.

8.5 List of important spare parts and accessories with their part number and costing.

SCHEDULE NO: 51

Equipment Specifications for Ion Selective Electrolyte Analyzer

1.Description of Function

1.1 For analysis of Electrolytes in serum, plasma, urine and body fluids.

2 Operational Requirements

2.1 System should measure Na, K, Cl, Ca, & Li.
Optional: Mg.

3 Technical Specifications

3.1 System should measure Na, K, Cl, Ca, and Li. **Mg measurement to be optional and price to be quoted seperately.**
3.2 Facility for auto sampler tray for constant loading. Sample can be fed by capillary syringe or Sample tube directly.
3.3 Sample volume should be less than 100 micro-liters.
3.4 Auto Calibration Facility and provision for economy mode.
3.5 Quality control facility
3.6 Facility of flagging of abnormal results and user programmable ranges.
3.7 Stand by mode: user controlled and automatically controlled
3.8 Memory for last 100 **results**.
3.9 Built in printer for printing the data.
3.10 RS.232.C (standard serial port) should be available

4 System Configuration Accessories, spares and consumables

4.1 ISE Analyser-01
4.2 Na, K, Ca, Mg, Li, Cl Electrodes- 02 each (1 standard and 1 spare)

5 Environmental factors

5.1 Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS)
General Requirements of Safety for Electromagnetic Compatibility.
5.2 Thu unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of 80%.
5.3 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz
6.2 Suitable Servo controlled Stabilizer/CVT
6.3 Resettable overcurrent breaker shall be fitted for protection
6.4 Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.

7 Standards and Safety

7.1 Certified for meeting IEC 60601-1-4 Medical electrical equipment - Part 1-4: General requirements for safety - Collateral Standard: Programmable electrical medical systems
7.2 Attach original manufacturer's product catalogue and specification sheet. Photocopy/ computer print will not be accepted. All technical data to be supported with original product data sheet. Please quote page number on compliance sheet as well as on technical bid corresponding to technical specifications.
7.3 Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450
7.4 Should be FDA or CE approved product
7.5 Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.

8 Documentation

8.1 Certificate of calibration and inspection from factory.
8.2 User manual in English- ***two copies***

8.3 Service manual in English- ***two copies***
8.4 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.
8.5 List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.

SCHEDULE NO.: 52

Equipment Specifications for Laminar Air Flow Class I

1 Description of Function	
1.1	Laminar Air flow is required to make available an environment whose air supply is free of bacteria, fungi, pollen, and practically all air-borne dirt.
2 Operational Requirements	
2.1	Laminar Air Flow system with HEPA Filters is required.
3 Technical Specifications	
3.1	Direction of flow of air should be horizontal.
3.2	HEPA Filter with Retention 0.22 Micron and Efficiency 99.97 with Ultra clean glass fibre paper having Epoxy coated CRCA frame casing with finely corrugated aluminium foils separators. Working area platform of 4 feet by 2 feet should be completely covered
3.3	PRE Filter with Synthetic, non-woven polyester fibres having Casing of Enamel painted CRCA frame with Retention of 10 - 15 Micron and 90 % Efficiency.
3.4	Material of construction: Basic cabinet of complete CRCA sheet metal construction with powder-coated finish.
3.5	Working area should be 4 ft width X 2ft depth X 2 ft 6 inches height with maximum variation of 6 inches with stainless steel platform.
3.6	Blower Assembly: DIDW type blower system with high RPM motor with variable speed, enclosed in a powder coated MS casing suitably suspended & connected to the filter chamber through flexible canvas duct.
3.7	Front Windows Acrylic, fixed by clamps.
3.8	Illumination with Fluorescent tubes with diffusers & 2 UV lamps.
3.9	Should be provided with the pressure gauge, control panel & provision for gas burner inside
4 System Configuration Accessories, spares and consumables	
4.1	System as specified-
4.2	Spare HEPA Filters and PRE Filters- 1 SET each.
5 Environmental factors	
5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 – 50 deg C and relative humidity of 15-90%
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 – 40 deg C and relative humidity of 15-90%
6 Power Supply	
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	Suitable voltage corrector/stabilizer
7 Standards and Safety	
7.1	Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application

7.2	Should be compliant with IEC 61010-1: covering safety requirements for electrical equipment for measurement control and laboratory use.
7.3	Should be FDA or CE or ISI approved product

8 Documentation

8.1	Certificate of calibration and inspection from factory AND ONSITE.
8.2	User/Technical/Maintenance manuals to be supplied
8.3	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
8.4	List of important spare parts and accessories with their part number and costing
8.5	Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out

Schedule No: 53

Lyophiliser

Specifications:

Automatic, microprocessor based, bench top model, ice – condensation temp up to – 85 deg centigrade, ampoules/vials/other manifold, S.S. Chamber, complete with demonstration, installation.

LYOPHILISER (LYOPHILISATION SYSTEM)

- 1.5 Litre coil in chamber ice condenser with front mounted bottom drain and following technical specifications:
  Maximum Condenser Chamber Capacity : 1.5 Lt.
  Ice Removal Capacity (in 12 hours) : Minimum 1.0Kg
  Maximum Ice Capacity : 1.35 Kg
  perating AmbientTemp. : Up to 50 degree C.
- Vacuum Pump having air displacement rate of at least 70lt/min. and ultimate vacuum of 1.5mtorr.
- Modular Design with individual modules available for flasks, ampoules and vials.
- Ampoule drying manifold should have facility to pre-freeze and do primary drying of samples in ampoules, in a self contained vacuum chamber using low speed centrifuge and evaporating cooling to freeze samples on the sides of each ampoule in thin layer to facilitate faster drying. It should also have a timer facility to stop rotation when samples are frozen and should then proceed to primary drying under vacuum.
- The secondary drying manifold should have facility of processing 48 ampoules in a single run, arranged radially around stainless steal column. The same should be upgradeable to process 96 samples in a single run.
- The primary drying accessory should process 96 ampoules of 0.5ml, 80ampules of 1 ml, 36 ampoules of 2 ml and 25 ampoules of 5ml and 12 ampoules of 10 ml. adapters should be provided that can accommodate Any standard ampoules or vials
- Sealing unit should be provided
- **Basic Common necessities:**
  - Input Voltage 230 volts 50 Hz as per Indian Standards
  - 2 copies of service manual and technical data with all necessary passwords without any obligation.
  - 2 copies of instruction & operational manuals without any obligation.
  - UPS preferably sine wave based with maintenance key batteries with duration half hrs.

10 years technical support from manufacturer is mandatory

Schedule No: 54

Mobile ICCU Van

AUTHORIZED EQUIPMENT: Ambulance services must carry equipment and medications as per requirement of Treatment Protocols, Ambulance services should not equip ambulances with equipment that is outside of scope of practice of its EMT employees.
PERFORMANCE STANDARDS: All equipment must be designed and constructed to meet medical performance objectives and must not endanger patients.
MAINTENANCE: All equipment and supplies must be maintained according to manufacturer's specifications with regard to maintenance, storage, expiration, date, replacement etc.
International Specifications standard Compliance - must meet any international standard for Ambulance Supplies specifications Like KKK- A-1822 and any amendments thereto.

S.No	Item Name	Description
1.	Air conditioning	The ambulance vehicle to be air-conditioned.
2.	Ambulance Cot (Roll in Roll out type) Must be certified to be meeting safety specifications as per International standard for Ambulance Supplies specifications Like KKK-A-1822 and any amendments thereto.	• Collapsible chair cum stretcher cum trolley • One 4 - wheeled, multi- level ambulance cot. • Standard cot mattress with waterproof cover. • Patient restraining devices at chest (commercial shoulder harness or equal) hip, and knee to prevent lateral or longitudinal displacement of the patient during transport. • Dual I.V. holder, capable of being cot mounted. Padded wrist and ankle restraints, minimum one complete set.
3.	Portable Oxygen unit (All spare cylinders must be stored in crash stable devices per KKK-A-1822 and any amendments thereto.)	Portable Positive pressure resuscitator/ inhalation unit designed to operate in conjunction with external cardiac compressions and deliver nearly 100% oxygen. All components must be stored together. Unit must be equipped with: a) One (1) bag/valve/mask ventilation unit. The addition of a flow restricted, oxygen powered ventilation device (demand valve) is optional; b) Oxygen cylinder with minimum capacity of 300 liters;

		Oxygen cylinder pressure gauge and regulator capable of delivering a range of zero (0) to fifteen (15) liters per minute; d) Two (2) different sizes of resuscitator face masks; Two (2) each child and adult size transparent disposable, high concentration oxygen masks with delivery tubes; f) Two (2) adult nasal cannula with delivery tube; g) Oxygen connecting tubing; h) Cylinder wrench or wheel secured to unit; One (1) full spare oxygen cylinder, minimum 1500 liters. Storage of the spare cylinders as per ambulance supplies specifications (Like KKK-A-1822 and any amendments thereto.)
4.	Installed Oxygen System	a) Two (2) Flow meters capable of delivering a range of zero (0) to 15 liters per minute, at minimum; b) Unbreakable oxygen humidifier, disposable, for single use only; c) Sterile water for use with oxygen humidifier; d) Four (4) each adult and child size, transparent disposable, high concentration oxygen mask with delivery tubes; e) Four (4) each adult and child sizes of disposable nasal cannula with delivery tubes.
5.	Portable Suction Unit	One (1) adjustable gas or battery powered portable suction apparatus, capable of delivering a minimum vacuum of 600 millimeters of mercury and equipped with the following: a) Wide bore, non-kinking tube; b) Pharyngeal suction tip; c) Non-breakable, transparent collection bottle, minimum capacity 550 cc (disposable container recommended); d) One (1) pair disposable exam type gloves; e) One (1) combination face mask/ eye shield or One (1) each facemask and protective eye wears.
6.	ECG Machine	Multi Channel Portable ECG Machine
7.	Multi Parameter ICCU Monitor	ECG, Sp02, NIBP, Respiration & temperature probes with 10" monitor size Chargeable from the Inverter/Ambulance Battery
8.	Two way mobile	

	Communication system	
9.	Stair Chair	One (1) stair chair with patient restraint straps.
10.	Scoop Stretcher	One Scoop Stretcher made of lightweight, high-impact composite materials, featuring two hinged, interlocking pieces that can be used to gently scoop up a patient without having to roll them.
11.	Transfer Sheet	One (1) transfer sheet with a minimum of six (6) handles, or equivalent
12.	Advance Life Support and Trauma Kit including First Aid Kit (Should be systematically arranged and packed in a bag with following minimum features: l.Four removable padded dividers 2.Large mesh pocket lid 3.Four full-size exterior pockets 4.Two zippered pockets 5. App dimensions should be *55* x 35 x 25 cm) There should be a provision of getting a refill pack of all the items listed in the description column.	**Bandages** & **Dressings:** • 2 Triangular Bandages • Multi-Trauma Dressing, 12" x 30" • ABD Pads, 5" x 9" • 50 Adhesive Bandages, 1" x 3" • 2 Bloodstoppers • 2 Kerlix, 4 1/2" • Petroleum Gauze, 3" x 9" • 2 Gauze Bandages, 3" • 2 Gauze Bandages, 6" • 25 Gauze Pads, 4" x 4" • 1 Elastic Bandage, 3" • Elastic Bandage, 4" • 4 Eye Pads • Roll Waterproof Tape, 1" • 1 Roll Waterproof Tape, 1/2" **Life support Equipment & Supplies:** • 1 Berman Oral Airway Kit • 1 BP/Stethoscope Kit • 1 Eye Wash, 4 oz. • 1 SAM Splint, 36" • 5 Pairs of Nitrile, Powder-Free • Gloves • 1 Paramedic Shears • 1 Bandage Scissors • 1 Kelley Forceps • 1 Splinter Tweezers • 1 Space Blanket or One (1) roll of

		aluminum foil, minimum 12 inches by 25 feet
		• 1 Ferno CPR Mask
		1 Burn Sheet
		10 Alcohol Prep Pads
		10 Antibiotic Ointments
		1 Bee Sting Kit
		10 PVP Iodine Wipes
		1 No-Rinse Hand Gel
		• Cold packs- 4 nos.
		• Two (2) motion sickness bags, or equivalent, capable of being sealed.
		
		Advanced Life Support and airway Management:
		• 1 Disposable Bag Valve Mask Resuscitator (Adult)
		• OB Kit One(l) sterile commercial obstetrical kit; OR
		
		One(l) sterile obstetrical kit containing the following:
		a) One(l) large towel;
		b) One(l) receiving blanket, or equivalent;
		c) One(l) pair sterile disposable plastic or rubber gloves;
		d) Six (6) sterile gauze pads, minimum 3" x 3".
		e) Two (2) Kelly clamps or sterile ties;
		f) Six(6) sanitary napkins;
		g) One(l) infant bulb syringe;
		h) One(l) container with lid for carrying placenta;
		i) One (1) newborn swaddler system, i.e. space blanket, foils swadler or equivalent to retain body temperature.
		
		• Airways
		
		Six(6) wrapped Oropharyngeal airways(2) Each infant, child and adult [in addition to those listed in the first aid kit];
		
		a) Eight(8) adult size nasal airways, one(l) each 20F, 22F, 24F, 26F, 28F, 30F, 32F, 34F;
		b) Four pediatric nasal airways, One(l) each 12F, 14F,16F,18F;
		c) One disposable package water soluble lubricant per nasal airwayl Ipecac Syrup, 30 ml

		• Poision antidote kit consisting of Activated Charcoal and measuring devices. • 1 Insta-Glucose • 10 Ammonia Inhalants • 1 Wizloc Universal Cervical Collar • 1 Mediwrap High Protection Blanket Aspirin 30 tablets of chewable pediatrie-strength (81 mg/tablet) aspirin, or 30 tablets of Adult-strength (165-325 mg/ tablet) aspirin.
13.	Irrigation fluid	Three (3) liters of sterile water or saline solution, in unbreakable containers, in a minimum of three (3) containers.
14.	Polyethylene Film	One (l) roll of polyethylene film.
15.	Bed Pan	One (1) adult bed pan.
16.	Pillows	Two (2) pillows with waterproof plastic covers, and four (4) pillow cases. One (1) pillow with waterproof plastic cover, and two (2) pillow cases.
17.	Sheets	Eight(8) sheets, disposable or linen; Two (2) sheets, disposable or linen.
18.	Blankets	Four (4) blankets.adult size Two (2) blankets. Pediatric size.
19.	Towels	Four (4) towels.
20.	Tissues	Two packages of disposable tissue papers.
21.	Drinking Cups	Two (2) or more disposable drinking cups.
22.	Ring Cutter	One Ring Cutter
23.	Adult Sphygmomanometer	One(l) adult, sphygmomanometer dial type
24.	Large Adult sphygmomanometer	One (1) large adult or thigh size sphygmomanometer. dial type
25.	Child size sphygmomanometer	One (1) child size sphygmomanometer. Dial type
26.	Infant sphygmomanometer	One(l) infant size sphygmomanometer dial type.
27.	Stethoscope	One (1) stethoscope to be a component of patient component of patient compartment stocks (other than what is in first aid kits).
28.	Contaminated trash Container	Two (2) disposable "Bio-/hazard" bags, with ties.
29.	CPR Board	CPR board or functionally equivalent (i.e. short board) hard surface for patient torso accessible to patient compartment.
30.	Defibrillator cum Monitor with Recorder	One Biphasic defibrillator with Automatic external cardiac (AED) with cardiac monitor and non - invasive external pace maker with ECG recorder and Sp02 facility. Defibrillator should be suitable for ambulance operation, with adult and pediatric external fixed paddles and Patient cable. Should be supplied with 10 multi functional disposable pads each for pediatric and

		adult. Should be FDA/ CE/ BIS Approved product. Should be chargeable from the Inverter/Ambulance Battery.
31.	Transport Ventilator and BiPAP	• Should have Frequency control 0 to 40-60 b/min • Tidal Volume Control 20ml-1200ml • Pressure Monitor 0 - 100cm H2O • 2 Point blender 100% or 50% O2 • Adjustable relief pressure with audible alarm • Add on PEEP option • Rugged structural packing • Anti shock mounting for gauge and internal pneumatics • Disconnection alarm.
32.	Infusion Pumps	3 syringe infusion pumps and one volumetric infusion pump meeting ambulatory requirements and should be FDA/CE/BIS approved product
33.	Small Refrigerator	To carry Blood and Drugs
34.	Equipment to Gain Access	a) One (1) screwdriver, minimum 8" regular blade. b) One(l) hacksaw with six(6) wire(carbide)blades c) One(l) pair of pliers, 10" vice grip d) One(l) short handled sledge hammer, minimum 3 pound e) One(l) rope, synthetic, minimum 50 feet by *Vi* inch diameter or functional equivalent f) Two(2) pairs of gloves (leather gauntlets) g) Two pairs of goggles (Clear Eye Protective)

Note: UPS (1KVA) for equipment should be supplied with 30 Min backup

VEHICLE EQUIPMENT

Item Name	Description & Quantity
Warning Lights	Emergency warning beacon, visible 360 degrees, as permitted by M.G.L c.90, s.7, or as required under KKK-A-1822 and any amendments thereto.
Audible Warning Devices	A siren, audible 500 feet to the front.
Maps	Street directories and road maps for primary and backup areas served.

Fire Extinguishers	Two (2) adequately charged fire extinguisher, five (5) pound C02 or dry powder, Underwriter's Laboratory approved. One of which shall be mounted in the patient compartment.
Hand Lights	One (1) adequately charged fire extinguisher, five (5) pound C02 or dry powder, Underwriter's Laboratory approved.
Road Reflectors	Two (2) 6-volt hand lights, bulb type, or two bulb type hand lights with rechargeable battery of 4.5 volts minimum. Six (6) DOTS approved triangular reflectors, or equivalent.
Hazardous Material Guide Books	• One (1) U.S Department of Transportation Emergency Response Guidebook, current edition; • One (1) National Institute of Occupational Health and safety (NIOSH) Pocket Guide to Chemical Hazards, current edition.
Binocular	One(l) pair of binoculars minimum 7 x 35 mm.
Triage Tags	Twenty Five (25) triage tags.
Protective Equipment	Personal protective equipment adequate to safeguard crew from anticipated exposures as defined by the licensee.
Reflective Garment	One (1) set reflective vest or reflective garment, or equivalent, per crew member.
Protective Masks	Two (2) respirators, conforming to OSHA Blood bore Pathogens Standard 29 CFR 1910.1030(HEPA).

Specifications for Vehicle/ Ambulance

General Specifications

1.1 The purchaser requires ambulances for providing pre hospital care at the level of Advanced Life Support to the accident and trauma patients. Finished version of the ambulance will have to have adequate space in the Patient Cabin, where apart from positioning of patient in comfortable position, a number of medical and communication equipment shall need to be fixed. The purchaser shall supply the medical items and medical equipments. Besides the patient and the equipments, the Patient Cabin should have enough space to accommodate two paramedics for care of the patient. The ambulance shall be suitable for continuous running /operation under prevailing environment and road conditions in Delhi.

1.2. The vehicles shall fully comply with the stipulated requirements enforced by the Government of India i.e. Central Motor Vehicle Rules (latest) as applicable. A certificate of compliance to CMVR, road worthiness, test certificate and type test certificates (including performance, safety, stability aspects etc.) for the chassis /fully built up ambulance from Automotive Research Association of India (ARAI) shall be furnished by the tenderers.

2. **Technical Specifications** :

2.1 Patient Cabin will need to provide:

a) Enough space for positioning of patient not less than 6'2".

b) Storage space for keeping medical equipment and consumables required for Advanced Life Support services The details of equipments and accessories are as given above

c) Demarked area for placement of stretcher ensuring no twisting of patient takes place while opening or closing of the doors.

d) Sitting space for at-least two persons one of whom may be paramedic.

e) The selected tenderers shall be required to satisfy the purchaser that the Patient Cabin provided in the ambulances to be supplied to the CAT meet the above requirements in respect of length, width and height of the patient Cabin.

2.2 The power supply arrangement in the ambulance should be adequate to sustain the requirements of normal lights as per the requirements of Motor Vehicle Rules and in addition must cater to the needs for internal lighting within cabin area, air-conditioning and functionally of medical and communication equipments.

2.3 Horse power: 80 (minimum). The prime mover shall be at least four cylinders of Diesel/Petrol engine, water cool and developing adequate horsepower at rated speed to take full load of ambulance fitted with medical equipments, communication equipments including telemedicine equipments (mentioned in annexure "A" & "B") and accessories. The engine shall be provided with direct electric 12 volt starting, 12 volt battery, alternator, fuel injection pump, lubricating oil pump, oil filter, Air Filter and oil pump etc.

2.4 Enhanced suspension system keeping in view local road conditions, ensuring smooth ride for the patient, minimal vibration to the sophisticated electro-magnetic equipments.

2.5 Ensuring proper arrangement for power supply exists in the ambulance. Power supply should be adequate to sustain simultaneous functioning of air conditioning unit, electro-magnetic equipment and normal lighting within the patient cabin.

2.6 The bidder shall furnish the detailed specifications of engine, clutch, transmission, steering, suspensions, brakes, wheels and tyres, electric systems, fuel tank, dimensions, weight etc.

Note: - Individual technical compliance for all items connected with equipments & Vehicle should be provided with support documentation

Schedule No: 55

MOBILE X RAY UNIT -HIGH END

S. No.	Operational requirements	Comments
1.	Compact, lightweight, easily transportable mobile radiographic unit suitable for bedside x-rays.	
2.	The unit must have an effective braking system *for* parking and transport. The tube stand must be fully counterbalanced with rotation in all directions	
3.	The exposure release switch should be detachable with a cord of sufficient length	
4.	The unit must have cassette storage facility for all size of cassettes	

S.N.	Technical Specifications	Comments
1.	**The Generator:** 1. Microprocessor controlled high frequency, output 30 KW or above. 2. It should have a digital display of mAs and kV. 3. KV range: 40kV to 120kV 4. mA range: 300 mA or more	
2.	**X-Ray Tube:** 1. Rotating anode with at least 2500 rpm and dual focal spot size should be 1mm or less. Light Beam Collimator of multi leaf type with auto cut off switch.	
3.	The exposure release switch should be detachable with a cord of sufficient length as per ICRP recommendation	

S.N.	System Configuration Accessories, spares and consumables	Comments
1.	Grid(Ratio 12:1) of following sizes should be provided- 01 each -12″x15″ -10″x12″	

S.N.	Standards and safety	Comments
1.	Should comply with AERB /BIS/ICRP Guidelines for radiation leakage and X-Ray equipments.	

S.N.	*Documentation*	Comments
1.	Comprehensive WARRANTY as per bid for complete system including x-ray tubes and all vacuumated	

	items and accessories.	

Schedule No: 56

Flexible Cysto - Nephroscope (High End)

1 Description of Function

1.1 The Flexible Cysto – Nephroscope with employs an ultra-miniature digital video CMOS sensor placed directly at the tip of the endoscope that captures full-motion video images in digital format. Illumination of the surgical site is provided by white light LEDs that are built into the endoscope. This illumination technology eliminates the need for a separate high-intensity light source and related cables.

2 Operational Requirements

2.1 The Flexible Cysto-Nephroscope is used for transurethral and percutaneous nephroscopic procedures. It is ideal for bedside cystoscopy / office practice under local analgesia as well as during operating procedures and anaesthesia. Large working channel to accommodate full range of operating instruments for therapeutic applications. The flexible shaft, small outer diameter, and beveled, ultra-glide covered tip to provide minimal traumatic access. Should be suitable for gas as well as chemical sterilization.

3 Technical Specifications

3.1 Field Of View: 110 degree or better Length: 37 cm (approx) Direction Of View: Straight forward (zero to six degrees). Working Channel: 6.0 Fr or better Distal tip Diameter: 14.0 Fr (approx)

3.2 Compatible Accessories

(i) Grasping forceps – 2 Nos.
(ii) Biopsy forceps – 2 Nos.
(iii) Ball tip Fulgurating electrode 5 Fr – 2 Nos.
(iv) Luer Lock Y connector Biopsy port
(v) Soak disinfection tray
(vi) Cleaning brush – 2 Nos.
(vii) Appropriate rigid storage case
(viii) Alligator forceps – 2Nos

3.3 – Medical Grade 19" TFT/LCD

4 System Configuration Accessories, spares and consumables

4.1 **Suitable trolley from OEM for complete system**

4.2 All consumables required for installation and standardization of system to be given free of cost.

5 Environmental factors

5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug

6.2 UPS of suitable rating with voltage regulation and spike protection for 30 minutes back up.

7 Standards, Safety and Training

7.1 Should be FDA, CE or BIS approved product

7.2 Manufacturer/Supplier should have ISO certification for quality standards.

7.3 Shall comply with IEC 60601-2-16 SAFETY requirements of medical electric equipment part2- particular requirements for the safety of Haemodialysis equipment.

7.4 Comprehensive warranty for 2 years and 5 years AMC after warranty
7.5 Comprehensive training for lab / OT staff and support services till familiarity with the system.

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied in English.
8.2 Certificate of calibration and inspection.
8.3 List of Equipments available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service/technical manual.
8.4 List of important spare parts and accessories with their part number and costing.
8.5 Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out

Schedule No: 57

O T Light with LED Technology

Flat, compact and aerodynamically surgical light based on LED technology.
The light head consists of several, systematically arranged light emitting modules, using multitudinous LEDs to form a multi-lens matrix for a shadow free and homogeneous illumination of the surgical field.
Surgical light consisting of:
Central axis, horizontal extension arm, height adjustable spring arm, vertical and horizontal bow and the one-point suspended light head consisting of 5 or 3 light emitting modules.

Suspension system:

Main light on lowermost axis position:
Extension arm: 850mm (if 1 or 2 extension arms per axis) or 700 mm (if 3 extension arms per axis) respectively
Length of spring arm: between 900 & 1000 mm
Operating distance: 70-150 cm
Operating range: 2000 mm & 2300 mm
All arms are freely rotatable (without stops) at all vertical joints.
Number of stops: 1 to 2
At which joint: connection between horizontal bow and light head (and connection between vertical and horizontal bow with)
Rotation range joints with stop : > 400°C

Light system:

Surgical light with cold and shadow-free light, high lighting intensity and very homogeneous large- area and in-depth illumination of the surgical field through multi lens matrix technology.
The colour temperature is adjustable in 4 steps from 3500K to 5000K. Within a light combination, in order to avoid an undesirable mix of light colour from two separate light heads, when adjusting the colour temperature on one light head, it is, as a standard setting, automatically synchronized with the other light heads. This synchronization can be switched off and on as needed at the touch of a button. Light field adjustment from 22cm to 30cm and focusing via steriliseable handle in the centre of the light head. It is operated by turning clock-wise in an ergonomic angle of not bigger than 45°C to reach the respective maximum or minimum setting. All light heads can be dimmed in a range of 10% to 100%. The colour temperature of the light remains constant in all dimming levels and is not subject to unwanted changes. Activation and deactivation of the endo-light level (10% remaining lighting intensity) via the dimmer control on one light head is, as a standard setting, synchronized for all other light heads within the light combination. It can, if the need arises, be adjusted separately for each light head at the touch of a button.
Exceptional in-depth illumination and avoiding of cast shadows by means of an adjustable shadow correction for 4 pre-defined
Situation through switching on and off and adjusting the lighting intensity of different parts of the light emitting surface respectively.
Switching the light head on and off is possible in a sterile manner directly at the light head as well as on the optional wall control panel. From one single control panel either only the respective light head or the complete light combination can be switched on and off

simultaneously. Switching on and off is without any restriction in terms of holding time after switching off or with regard to the nominal light values after switching on.
No heat emission through IR radiation.
In case of failure of one source (LED), the illumination of the light field should not be affected.
Gaps and spaces between the single light emitting modules of the light head should support the effect of laminar air flow systems.
Sterilizeable knob at the lower side of the light head for control of all light function (dimming, endo-light colour temperature adjustment shadow control, switching on\off and if applicable, camera zoom and picture rotation) by the surgical team itself
Lighting intensity at 1 m distance: 160,000 Lux & 130,000 Lux
Size of light field at 1 m distance: 22-30 CM
Homogeneous light cylinder : 75 cm
Colour temperature : 3500- 5000K
Colour rendering index : RA 95
Temperature increase at surgical site : max. 2^{o}C
Life span of main light source : > 20.000h
Power input (per light head) : 200 W
Supply Voltage : 90- 240 V AC
24 V AC
Protection class : 1

Light Head:

Made of powder coated aluminium diecast with smooth and clean surfaces that are easy and safely to clean.
Dust and Splash – proof
One – point suspended
Diameter : 823 mm or 690 mm respectively
Temperature at working conditions above : approx 45 degree C
Underneath < 1 degree C
The light head can be pre-equipped with preparation and the respective cabling for the camera system.

Camera :

1CCD chip camera for installation either in the central handle of the light head ao at a separate carrying arm.
Control of the camera functions via external control unit . In addition , picture rotation and camera zoom can be adjusted via the sterelisable knob at the respective light head

Signal transmission and power supply via inlaying cabling with slip rings in all vertical joints.
Chip 1/6 " CCD
Standard PAL / NTSC
Pixels 800,000 PAL, 680,000 NTSC
Zoom 25 * optical , 12 * digital
Lens f+2.4mm(far) bis 60 mm (tele), F1.6 bis F2.7
Signal/ Noise ratio 49 dB
Shutter ¼ bsi1/10000s, 20 steps (NTSC)
1/3 bus 1/10000s, 20 steps (PAL)
Horizontal resolution 470 TV lines (NTSC), 460 TV lines (PAL)
Min illumination 3.0 lux (50 IRE)

White balance automatic/ manually
Gain automatic / manually (-3 bis 28 dB, 16 steps)
Yn-/ Outputs at the control unit:
1. 2 * Y/C (S- Video)

Schedule No: 58

Equipment Specifications for OT Table

1 Description of Function

1.1 A dedicated system for all kinds of adult surgery.

2 Operational Requirements

2.1 Multi purpose powered OT table, C- Arm Fluoroscopic compatible, suitable for all major surgical procedures, complete with a corded handset with battery level indicators and moulded, anti-static, seamless mattress.

3 Technical Specifications

3.1 Table should have features of table top with a traverse of minimum of 250 mm or more, either cranially or caudally

3.2 Full length X-ray translucent top with removable & interchangeable head and leg sections with an auto-locking mechanism.

3.3 Table must allow for unrivalled C-arm access and kidney break positioning without the need to move the patient.

3.4 The handset should offer controls for Trendelenberg / reverse Trendelenberg, lateral tilt, flexion/extension (90/230 degree), longitudinal tabletop traverse and height functions (min. height around 700-800 mm and max. height around 1000-1200 mm).

3.5 The brakes, wheels and castors should be controlled by two foot pedals provided at either end of the table

3.6 The table should feature an integrated stand by panel for controlling the movements in case of handset loss or battery failure.

3.7 The Table stem should be located under the middle of the back section making the tabletop eccentric.

3.8 Table should be able to carry heavy patients and have a capacity of up to 300kgs.

3.9 Table should also be suitable for tall patients and have a length of at least 2000 mm

3.10 Table should offer low minimum height enabling the surgeon to operate even when seated

3.11 The table should have divided leg section with mattresses, arm board & universal clamp

3.12 Should have facilities for manual operations in case of power failures.

4 System Configuration Accessories, spares and consumables

4.1 System as specified

4.2 The table should be supplied with following necessary accessories including knee crutches:

a. Arm supports – 2

b. Gel heel pads – 1 pair

c. Patient positioning gel strap, 200-250cms – 1

d. Hand Surgery Board – 1

e. Anaesthetic screen with sleeve – 1

f. Lithotomy Poles/crutches with pads – 1 pair

g. Douche tray with strainer to be fixed with table – 1

h. Elevated Arm Support - 1

i. Freddicks Lloyd Davis Stirrups – 1 pair

j. Fluoroscopic compatible Kidney Bridges

k. Padded head, shoulder and arm rest – 1 set each

l. Padded lateral support and shoulder supports – 1 set

m. Appropriate accessories' clamp.

4.3 Table should be quoted with Suitable Chair for the surgeon for endoscopic procedures – 1

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 0-50deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug

6.2 Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications. (Input 160-260 V and output 220-240 V and 50 Hz)

7 Standards, Safety and Training

7.1 Should be FDA/ CE or BIS approved product

7.2 Manufacturer/Supplier should have ISO certification for quality standards.

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied in English.

8.2 Certificate of calibration and inspection.

8.3 List of Equipments available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service/technical manual.

8.4 List of important spare parts and accessories with their part number and costing.

8.5 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

Schedule No:59

OPERATION TABLE HYDRAULIC

1 Description of Function

1.1 Hydraulic operating Tables are simple tables for performing surgical procedures and it works without electrical power.

2 Operational Requirements

2.1 OT Table is required for general surgery and should have X-Ray transluscent tops.

3 Technical Specifications

3.1

1. Four section table top with divided foot section
2. Table top should be constructed from a high-pressure laminate to permit x-ray penetration and fluoroscopy
3. All table positioning, i.e., height, back section, lateral tilt, trendelenburg, and anti-trendelenburg, except foot and head section should be operated hydraulically
4. Should have a manual position selector, whose location should be interchangeable between foot and head end
5. The casings on the frame and centre supporting column should be made of hygienic stainless steel
6. Mattress should be radio lucent and suitable for fluoroscopy
7. Measurements :(all dimensions are approximated to +/_ 10 % variations)
    a. Height: 730-1040 mm
    b. Side tilt: + 15 degrees
    c. Back section adjustment: - 15 degrees to 70 degrees
    d. Foot section adjustment: - 90 to 0 degree, detachable
    e. Trendelenburg: 25 degree
    f. Anti trendelenburg: 25 degree
    g. Head section adjustment: -40 to -30 degree, detachable
    h. Maximum width: 555 mm
    i. Length: 1950 mm

4 System Configuration Accessories, spares and consumables

4.1 System as specified

4.2 Accessories should include

a. Padded arm rest with straps - pair with damps
b. Anaesthesia screen with clamps
c. Side supports: pair with clamps
d. Shoulder supports: pair with clamps
e. Knee crutches: pair with damps
f. X-ray cassette tray
g. Kidney bridge
h. SS bowl with clamps

i. Infusion rod with clamp

5 Environmental factors

6 Power Supply

None

7 Standards, Safety and Training

7.1 Should be FDA, CE or BIS approved product

7.2 Manufacturer should be ISO certified for quality standards.

7.3 Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.

7.4 Comprehensive warranty for 2 years and 5 years AMC after warranty

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied in English.

8.2 Certificate of calibration and inspection.

8.3 List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.

8.4 List of important spare parts and accessories with their part number and costing

8.5 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

Schedule No: 60

Schedule No Equipment Specifications for OT Table for Urology.

1 Description of Function

1.1 A dedicated system for Urological surgery (Endoscopic as well as open surgeries).

2 Operational Requirements

2.1 Multi purpose powered OT table, C- Arm Fluoroscopic compatible, suitable for all major surgical procedures, complete with a corded handset with battery level indicators and moulded, anti-static, seamless mattress.

3 Technical Specifications

3.1 Table should feature of sliding table top with a traverse of minimum of 250 mm or more, either cranially or caudally

3.2 Full length X-ray translucent top with removable & interchangeable head and leg sections with an auto-locking mechanism.

3.3 Table must allow for unrivalled C-arm access and kidney break positioning without the need to move the patient.

3.4 The handset should offer controls for trendelenberg / reverse trendelenberg, lateral tilt, flexion/extension (90/230 degree), longitudinal tabletop traverse and height functions (min. height around 700-800mm and max. height around 1000-1200mm).

3.5 The brakes, wheels and castors should be controlled by two foot pedals provided at either end of the table

3.6 The table should feature an integrated stand by panel for controlling the movements in case of handset loss or battery failure

3.7 The Table stem should be located under the middle of the back section making the tabletop eccentric.

3.8 Table should be able to carry heavy patients and have a capacity of up to **150kgs** with an option for width extension of obese patients.

3.9 Table should also be suitable for tall patients and have a length of at least 2000 mm

3.10 Table should offer low minimum height enabling the surgeon to operate even when seated

3.11 The table should have divided leg section with mattresses, arm board & universal clamp and **should have central cut to accommodate Vaginal Speculum during Vaginal Surgeries in Lithotomy position.**

3.12 Should have facilities for manual operations in case of power failures.

3.13 Remote should be water proof

3.14 Battery backup for 30 min

4 System Configuration Accessories, spares and consumables

4.1 System as specified

4.2 The table should be supplied with following necessary accessories including knee crutches:

a. Arm supports – 2

b. Gel heel pads – 1 pair

c. Patient positioning gel strap, 200-250cms – 1

d. Hand Surgery Board – 1

e. Anaesthetic screen with sleeve – 1

f. Lithotomy Poles/crutches with pads – 1 pair

g. Douche tray with strainer to be fixed with table – 1

h. Elevated Arm Support - 1

i. Freddicks Lloyd Davis Stirrups – 1 pair

j. Fluoroscopic compatible Kidney Bridges

k. Padded head, shoulder and arm rest – 1 set each

l. Padded lateral support and shoulder supports – 1 set

m. Appropriate accessories' clamp.

4.3 Table should be quoted with Suitable Chair for the surgeon for endoscopic procedures – 1

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 0-50deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug

6.2 Battery back up 30 min

7 Standards, Safety and Training

7.1 Should be FDA/ CE or BIS approved product

7.2 Manufacturer/Supplier should have ISO certification for quality standards.

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied in English.

8.2 Certificate of calibration and inspection.

8.3 List of Equipments available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service/technical manual.

8.4 List of important spare parts and accessories with their part number and costing.

8.5 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

Schedule No: 61

PEDIATRIC BRONCHOSCOPE

1. Digital three **Chip Endovision Camera : one (compatible with telescopes of Brobchoscope, Oesophagoscope , and Cystoscope)**

Color system PAL / NTSC , power supply: 100 – 240 VAC , 50/60 Hz , compatible with Pal, NTSC , automatic white balance with control ob base unit and also on camera . Integrated zoom lens for manual and automatic control for exposure of fog. Compatible with VHS and Comp and DVI. Minimum sensitivity 3 lux. Instrument coupling for all rigid endoscope . Long camera cable 300 cm.Two pre set function keys on camera for control of camera function , printer, computer , VCR and other peripherals

Consisting of:

Mains cord, with per focal zoom lens, camera head, camera control unit (CCU) , BNC connec ting cable , length 180 cms, 2 connecting cables for connecting video printer or recorders, DV cable, length 500 cm , 6 to 4 pin, keyboard

US English character generator.

2. Medical Colour Monitor 19"(fully flat screen) : one
Special 19 "monitor, medical grade, Trintron colour tube, PAL, NTSC & SECAM colour system. For Bronchoscopy, Oesophagoscopy and cystoscopy

3. Telescope

A Sraight forward telescope , 0 degree , diameter 2.9 mm , length 36 cm , autoclavable, fiber optic light transmission incorporated(one)

B Straight forward telescope 0 degree , diameter 2.9 mm , length 30 cm , autoclavable, fiber optic light transmission incorporated (one)

C. Straight forward telescope 0 degree , diameter 2.7mm , length 18cm autoclavable, fiber optic light transmission incorporated (one)

D. Straight forward telescope 30 degree , diameter 2.9mm , length 36cm autoclavable, fiber optic light transmission incorporated (one)

E.Straight forward telescope 30 degree , diameter 2.9mm , length 30cm autoclavable, fiber optic light transmission incorporated (one)

F. Straight forward telescope 30 degree , diameter 2.7mm , length 18cm autoclavable, fiber optic light transmission incorporated (one)

4. Bronchoscope Sheath

Should have attachment (Channels) for anaesthesia (Ventilation) and instruments and optical prism light.

A . Bronchoscope sheath , size 6 , outer diameter 8.2 mm ,
inner diameter 7.5 mm, length: 30 cm (one)

B Bronchoscope sheath , size 5 , outer diameter 7.8 mm ,
inner diameter 7.1 mm, length: 30 cm (one)

C. Bronchoscope sheath , size 4.5 outer diameter 7.3 mm ,

inner diameter 6.6 mm, length: 30 cm (one)

D . Bronchoscope sheath , size 4 outer diameter 6.7mm ,

inner diameter 6mm, length: 30 cm (one)

E . Bronchoscope sheath , size 3.7 outer diameter 6.4 mm ,

inner diameter 5.7 mm, length: 30 cm (one)

F. Bronchoscope sheath , size 3.5 outer diameter 6.4 mm ,

inner diameter 5.7 mm, length: 30 cm (one)

G. Bronchoscope sheath , size 4.0 outer diameter 6.7 mm ,

inner diameter 6.4 mm, length: 26 cm (one)

H. Bronchoscope sheath, size 3.7outer diameter 6.4 mm ,

inner diameter 6.4 mm, length: 26 cm (one)

I Bronchoscope sheath , size 3.5 outer diameter 5.7 mm ,

inner diameter 5.0 mm, length: 26 cm (one)

J. Bronchoscope sheath , size 3.0 outer diameter 5.0 mm ,

inner diameter 4.3 mm, length: 26 cm (one)

K Bronchoscope sheath , size 3.5 outer diameter 5.7 mm ,

inner diameter 5.0 mm, length: 18.5cm (one)

L Bronchoscope sheath , size 3.0outer diameter 5.0 mm ,

inner diameter 4.3 mm, length: 18.5m (one)

M. Bronchoscope sheath , size 2.5 outer diameter 4.2 mm ,

inner diameter 3.5 mm, length: 18.5m (one)

5. Optical forceps (compatible with above mentioned telescopes and bronchoscope sheaths)

A. Optical alligator forceps , 2x2 teeth , with spring action handle , for controlled removal of flat foreign bodies (such as coins) ;(two)

B. Optical forceps, with spring action handle for controlled removal of soft foreign bodies (such as peanuts) : (two)

C. Optical alligator forceps, with forced controlled handle , for removal of hard foreign bodies (two)

6. Forceps(one each)

A. Forceps alligator, grasping , double action jaw , sheath diameter 1.5 mm , working length: 35 cm

B. Forceps alligator, grasping, double action jaw, sheath diameter 1.5 mm, working length: 35 cm, pointed serrated for coins and foreign bodies.
C. Forceps alligator, grasping double action jaw, sheath diameter 1.5 mm, working length 35 cm, pointed for peanuts and soft foreign bodies.
D. Biopsy Forceps 35 Cm

7. Sponge holder:

Spring handle, working length 35 cm (one)

8. Rigid suction tube with rubber tip(one each)

A Rigid suction tube, straight length 35 cm, diameter: 3 mm
B Rigid suction tube, straight length 25 cm. diameter: 3 mm

9. Foreign body basket with rigid handle, working length 35 cm

10. Telescope bridge for fixed position between telescope and bronchoscope.

Compatible with above mentioned telescopes and bronchoscope sheaths (Three)

11. Prosmatic light deflection with connection for fiber optic light cable, autoclave(Two)

12. Glass Window Plug (Two)

13. Rubber Telescope Guide for use with telescopes or optical forceps (Two)

14. FLUVOG Adaptor with sliding glass window plug, sealing cap, notched lens

and keyhole opening, moveable (two)

15. Injection canula only. Leur lock outer diameter – 3.5 mm , for use with

bronchoscope tubes (for positive pressure assisted ventilation ((two)

Injection canula only. Leur lock outer diameter – 2.7 mm , for use with bronchoscope tubes (for positive pressure assisted ventilation ((Two)

16. Instrument guide for suction catheter (Two)

17.Adaptor from bronchoscope to any type of pediatric respiration equipment (Two)

18. Sealing plug for ventilation attachment of bronchoscopes(Two)
19. Adjustable magnifier, swing – away type, autoclave (One)
20. Fibre optic light cable size 3.5mm, length 180 cm (Two)
21. Cold light fountain twin bulb Halogen 150 watts Power supply

220 VAC, 50 Hz. (One)

Note

1. Supplier company will have to give training to the doctors and the staff of operation theatre, regarding the handling and maintenance of the instrument on site.
2. Supplier should have local service station to provide immediate repairs of any breakdown of the instruments and to provide the spare parts and disposables articles, as and when required by the users of the supplied instruments.
3. All the above instruments and equipments must be having relevant CE certification as well as IEC certification, applicable to Medical Instruments and equipments.
4. All eligible companies should be an OEM AND SHOULD ALSO HAVE ISO 9001 certification or EN 46001 certification. Additionally instruments should have been tested in accordance with IEC 601 -1 international. Apart from the companies having their own service centres in India will be highly preferred.

Schedule No: 62

Equipment Specifications for Paediatric Laproscope set with Accessories

1 Description of Function	
1.1	Laproscopic surgery in Paediatrics
2 Operational Requirements	
2.1	3 Chip Camera
2.2	Video processor
2.3	Insufflator
2.4	Telescope
2.5	Instruments
2.6	Accessories
3 Technical Specifications	
3.1	3 Chip Camera 1. Integrated zoom lens 2. F25- 50 mm 3. Beam splitter 4. Digital zoom 5. Freeze frame facilities 6. With digital video 7. With DV cable
3.2	Video processor 1. Hi definition Video 1289 x 1024 native resolution 2. Control of the two peripheral accessories at camera head 3. One standard RGB output 4. S VHS output - 2 Nos

3.3	Insufflator 1. 20 litres advance continuous electronic CO_2, flow technology (not intermittent flow) should not have any disruption between gas flow and pressure reading. 2. Digital decimal (0.1 Resolution) display of flow and pressure parameters. 3. User selectable safely blow off pressure settings 4. Pressure releasing mechanism should be controlled by in built software 5. Measurement of pressure up to 50 mm of mercury 6. Desirable – Thermal Insufflator system
3.4	Telescope 1. Rod – lens technology 5 mm 0^o , length 24 cm (1No) 2. Rod lens technology 5 mm 30^o length 24 cm(1 No) 3. Autoclavable and wide angled.
3.5	Instruments 1. 3 mm dissecting and grasping forceps, double action jaws, length 20 cm – 1 2. 3 mm dissecting and grasping forceps heavy, double action jaws, length 20 cm – 1 3. 3 mm dissecting and grasping forceps with ratchet single action jaws with atraumatic fine serration – 2 4. 5 mm size tracar with conical tip, cannula with LUER lock connection for insufflation length 5 cm, silicon leaflet valves – 2 5. 3 mm size tracar with conical tip, cannula with LUER lock connection for insufflation length 5 cm, silicon leaflet valves – 2 6. 10 mm size tracar with conical tip, cannula with LUER lock connection for insufflation length 5 cm, silicon leaflet valves – 2 7. 3 mm scissors length 20 cm with serrated jaws curved conical double action jaws. - 1 8. 3 mm scissors length 20 cm single action jaws- 1 9. 3 mm coagulation and dissection electrode length 20 cm L shaped insulated with connector pin for unipolar coagulation - 1 10. 3 mm palpation probe distendable length 20 cm – 1 11. 3 mm micro needle holder handle with rachet length 20 cm – 1 12. Irriagation and suction cannula with 2 way stop cock – 1 13. 2 way stop cock -1 14. 3 mm pylorotome length 20 cm distendable – 1 15. knot guide with eyelet – 1 16. Clip applicator

4 System Configuration Accessories, spares and consumables

4.1	System as specified-
4.2	All consumables required for installation and standardization of system to be given free of cost.
4.3	Accessories 1. Electro Surgical Unit (Cautery) Electro Surgical Unit (Cautery) with bipolar cut and coagulation, under water operation, spray coagulation, 300 watts, units should have cut control , with minimum neorosis. High cut with specialized are regulation for under water cuts or in fatty structures. Soft coagulation for precisely controlled coagulation, no carbonization, less adhesions,. Bi polar coagulation for greater safety. PPS for intelligent support or initial incisions and cutting should include HF cables both bipolar and unipolar. Foot switch, patient plate 1 set 2. Light source 1. 220 volts, 300 watt, Xenon/ Halogen (twin Bulb) with elliptical Bulb design 2. Bulb working life 500 hrs 3. Bulb life counter on light source 4. Automatic light Adjustment 5. Stand by button 6. universal jaw assembly to adapt any make of Fiber optic 7. cable without adapter with single hand operation 8. Automatic shutter 9. Spare bulbs – 2 10. Spare light cable 2 4. Medical grade LCD Monitor 20” – 1 5. Endoscopic/ laproscopic Trolly -1 6. Gas Cylinder (CO_2) 9 kg – 1 7. High pressure tubing - 1 8. Cidex Trya – 1 9. Formaline chamver 26” – 1 10. Servo stabilizer 1.0 KVA – 1

5 Environmental factors

5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%

6 Power Supply

6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.

7 Standards, Safety and Training

7.1	Should be FDA , CE or BIS approved product
7.2	Manufacturer/Supplier should have ISO certification for quality standards.
7.3	Shall comply with IEC 60601-2-16 SAFETY requirements of medical electric equipment part2-

	particular requirements for the safety of Haemodialysis equipment.		
7.4	Comprehensive warranty for 2 years and 5 years AMC after warranty		
7.5	Comprehensive training for lab staff and support services till familiarity with the system.		

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	Certificate of calibration and inspection.		
8.3	List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.		
8.4	List of important spare parts and accessories with their part number and costing.		
8.5	Log book with instruction for daily , weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out		

Schedule No: 63

Specifications for High Definition Laparoscopy System

1. Camera console 220 v with universal coupler & Autoclavable camera head
2. Pure Digital signal with high definition video (1280 X 1024 resolution)
3. Resolution – at least 2000 horizontal lines
4. 8 specialty settings
5. Integrated Flexible Scope filter
6. Signal to Noise ratio should be **50 dB**
7. Progressive scan technology both on camera head & console
8. Brightness Control on console & camera head
9. Aperture Control on console
10. Inbuilt 16 step digital Image Enhancer on console
11. Digital zoom & white balance on camera head
12. Integrated Gain/shutter/Enhancement with brightness control
13. Two peripheral control on camera head

Video Output

1. 2 DVI output
2. 2 SVHS & 1 RGB out put
3. One Composite out put

Automatic Light source

1. 220 V, 300 W. Xenon Bulb (with one spare bulb)
2. Elliptical Bulb technology
3. Bulb Working life minimum **500 hrs**
4. Digital Bulb life counter on light source
5. Automatic /Manual Light Adjustment
6. Stand By Mode
7. Universal Jaw Assembly to adapt any make of fibre optic cable without adapter.

Fibre optic Cable

4.5 mm dia, 3 meters Snap Fit cable

Monitor

19'' Flat Panel Monitor Colour

Insufflator

30 Litre of high flow
Microprocessor controlled unit
Soft Approach Pressure control for safe recovery of abdominal pressure
Gas heating
LCD based central display monitor with text & graphics
AV warning signal

Laparoscopes, Fully Autoclavable with working length 300mm

Wide angled distortion free view
Universal adaptor for other light sources
Yellow Glass index for optimum evenness of focus & contrast
0 degree, 10mm

30 degree, 10 mm
0 degree , 5mm

Specifications

Laparoscopic hand instruments (reusable) with 310 mm working length, take apart locking / unlocking mechanism, rotatable with interchangeable handle with monoploar diathermy attachment (Except trocars and veress needle)

Veress needle 12 cm length- 4 Nos.
Veress needle 15 cm length-4 Nos.
Carbon-di-oxide gas tubing-4 Nos.
Trocars sleeves 11 mm-4 Nos.
Reducer 11/5 mm-2 Nos.

Trocars sleeves 5.5 mm 4 Nos.
Trocars (pyramidal tip) 10 mm 4 Nos.
Trocars (pyramidal tip) 5 mm 4 Nos.
Trocars washer 5 mm 100 Nos.
Trocars washer mm 50 Nos.
Laproscopic biopsy forceps 5 mm, 2 Nos.
Maryland dissector 5mm with unipolar diathermy 2Nos.
Maryland dissector 5mm, high performance with bipolar Cutting 2 Nos.
Atraumatic graspers, 5mm 2 Nos.
Metzenbaum scissors (5cm) with unipolar diathermy 2 Nos.
Metzenbaum scissors (5cm) high performance with bipolar Cutting 2 Nos.
Fan retractors 5 mm 2 Nos.
Laparoscopic cautery leads 4 Nos.
Suction irrigation device with two way valve 2 Nos.
L shaped hook electrode 5mm
L shaped hook 5mm , high performance with bipolar cutting 2 Nos.
Laparoscopic bowel grasper 5mm, length 33-36 cm-2 Nos.
Laparoscopic spoon forceps 10mm length 33- 36 cm -2 Nos.
Needle holder 5mm, 33 cm long 4 Nos.
Laparoscopic suction cannula, 10 mm-2 Nos.
Laparoscopic suction cannula 5 mm-2 Nos.
Clip applicator 10 mm Large, Medium, Small Clips
Gall bladder extraction 5mm Large, Medium, Small Clips
Hassan cannula
Lap-Eondotrainer
Port closure needle
Sterilization tray with cover 3 x 1

Schedule No: 64

PEDIATRIC CYSTOSCOPE / RESECTOSCOPE

1.) Cystourethroscope for Neonates and Children

A). Telescopes:

1. Telescope (one each) Autoclavable 134 ° C / 273°F with enlarged image & brightness size 1.9 mm, 0°

2. Telescope (one each) Autoclavable 134 °C, 273°F With enlarged image and brightness, size 1.9 mm, 25°

B). Sheath with obturator with fixed irrigation channel with stop cock

1. Size 4.5 – 6 Fr (One each) with instrument port capacity 2.4 Fr.
2. Size 7.5 Fr. (one each) for diagnostic use with 0 ° telescope
3. Size 8.5 Fr. (one each) with instrument port capacity 3Fr.
4. Size 9.5 Fr. (one each) with instrument port capacity 4Fr.

a) Electrode : (one each)

1. Button electrode, flexible , uniploar , 580 mm length and 3 Fr. Size
2. Button electrode, flexible , uniploar , 580 mm length and 4 Fr. Size

2.) Cystoresectoscope - for Neonates and Children

A. Sheath with obturator with fixed irrigation channel with stopcock with distal end insulated
Size 9 Fr. (one each) with instrument port capacity 3Fr.

B. Adaptor (bridge) – one each for examination and probing with one instrument port of 3Fr.capacity

C. Working element with passive cutting action – (one each)

D. Accessories:

a) Electrodes

1. Coagulating electrodes for resectoscope with telescope of 1.9 mm angled 90 ° retrograde. Sickle shaped with distal ball - (Two each)
2. Cutting electrode for resectoscope with telescope of 1.9 mm (2 each)

b) Rigid grasping forceps: ***for Stent Removal Length 580 mm, size – 3Fr. (****one)*

Rigid grasping forceps: for Stent Removal. Length 580mm, size – 5Fr. (**one**)

c) Biopsy forceps: ***Length 260 mm, size 3 Fr. (one)***

Biopsy forceps: Length 260 mm, size 5 Fr. (one)

3). Fibre optic cable: (one)

1.6 mm diameter, 1.8 m long

4). Light Source (one),
15 V. 150 Watt, Twin bulb, halogen

3.) Cystouretheroscope for children

A Telescope

Telescope - (one each) - Autoclavable 134 °C/ 273 °F, with enlarged image and brightness Size 2.7 mm, 0°

Telescope - (one each) - Autoclavable 134 °C/ 273 °F, with enlarged image and

brightness Size 2.7 mm, 25°

B Sheath with obturator with fixed irrigation channel with stop cock

Size 11 Fr. (One each) - for diagnostic use with 0° telescope

1. **Size 12 Fr. (One each)** - with one instrument port capacity
2. **Size 13 Fr. (One each) -** with two instrument ports capacity

C. Electrodes – (Two)

Button electrode, flexible unipolar, 580 mm length and 5 Fr. Size

4). Cystoresectoscope - for Children

A. Sheath with obturater with fixed irrigation channel with stopcock with distal end insulated

Size 11.5 Fr. (One each) With instrument port capacity 5 Fr.

B. Adaptor (Bridge) (one)

C. Working passive one) **For examination with out instrument port** element with cutting action (

D. Accessories

a. Electrodes

1. Coagulating electrode for resectoscope with telescope of 2.7 mm, angled 90 °

retrograde, Sickle shaped with distal ball – 6 No.s

2. Cutting electrode for resectoscope with telescope of 2.7mm.- 3 No.s

3). Supplier company will have to give training to doctors and staff of Operation Theatre, regarding the handling and maintenance of the instrument.

4) Supplier should have local service station to provide immediate repairs of any Break down of the instruments and to provide the spare parts and disposables articles, as and when required by the users of supplied instruments.

5). The instrument should not be refurbished one and it should be fresh supply from original manufacturer of the instruments

6) All the above instruments and equipments must be having relevant CE certification as well as IEC certification., applicable to medical instruments and

7). All eligible companies should be OEM and should have ISO 9001 certification or EN 46001 certification. Additionally instruments should have been tested in accordance with IEC 601-1 international. Apart from this, companies having their own service centres in India will be highly preferred.

Schedule No: 65

Plasma Sterilizer

1 Description of Function	
1.1	Plasma sterilization includes exposing an article to be sterilized to a plasma generated from a gas mixture. The exposure of the article to the plasma is carried out at a pressure of from 0.1 to 10 torr and a chamber temperature of less than 63.degree. C. for a time period sufficient to effect sterilization. The apparatus for plasma sterilization of articles includes a plasma generator and a sterilizing chamber.
2 Operational Requirements	
2.1	Sterilization of Operation Theatre instruments using state -of-art Hydrogen peroxide Gas Plasma Technologyand cost effective
3 Technical Specifications	
3.1	The temperature of sterilization must be in the range of 30-60 deg C and of low-moisture sterilization process
3.2	The process should be rapid enough to provide high throughput with the cycle time of 50-75minutes
3.3	The cycle time to processing should be programmable to best match the Operation Theatre instruments and load configuration
3.4	The sterilizer should have usable volume of 100-120 liters.
3.5	There should be no toxic residuals with primary byproducts being water vapor and oxygen & it should be safe for patient, staff and environment.
3.6	**The technology should be such that it required no costly engineering requirements for installation and functioning. The equipment should not require connection other than an electrical power cord.**
3.7	**Supplier should connect the system to the standby power of the hospital which does not allow power interruption beyond 10 seconds by the supplier.**
3.8	**The chamber shape should be Rectangular or Square in shape**
3.9	**The system should be capable of sterilization of hollow catheters of atleast 2 mtrs length without bending or coiling (Should be straight). All required accessories should be supplied with the unit.**
4 System Configuration Accessories, spares and consumables	
4.1	System as specified-
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 -50deg C and relative humidity of 15-90%		
5.3	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%		

6 Power Supply

6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug		
6.2	Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)		

7 Standards, Safety and Training

7.1	Certified to be in compliance with ISO/EN 14937.-Standards for sterilization equipments.		
7.2	Should be FDA or CE approved product		
7.3	Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements		
7.4	Manufacturer/Supplier should have ISO certification for quality standards.		

8 Documentation

8.1	User Manual in English		
8.2	Service manual in English		
8.3	Certificate of calibration and inspection.		
8.4	List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.		
8.5	List of important spare parts and accessories with their part number and costing.		
8.6	**Deleted**		
8.7	**Price of all consumable (Including Gas cartridge, labels, indicators, packing material, tray, adaptor etc) required for 1000 cycles of full load should be offered by the bidder. This pricing shall be frozen for Five Year.**		
8.8	**All consumables required for 100 cycles should be supplied with the unit (as per the requirement of the individual user).**		

Schedule no: 66

Platelet Agitator with Incubator-Medium Volume

1 Description of Function	
1.1	Platelets need to be stored under agitated (with agitator) and controlled temperatures (in the incubator).
2 Operational Requirements	
2.1	Flat bed agitator fitted inside a temperature controlled incubator operating with CFC FREE refrigerant gas and insulation material.
3 Technical Specifications	
3.1	**A.SPECIFICATIONS INCUBATOR:** 1.Construction Material: (a)Internal: Galvanized steel with bacteria-resistant powder coating (b)External: Corrosion resistant coating at least 1 mm thickness.(c) Door should be of transparent material and should have one hand operation with locking facility. 2. Incubator should have capacity to place agitator having capacity of 48 bags 3.Should be able to maintain a temperature of 22 deg Celsius. (Range +22^{0}C to 24^0 C) 4.Should have LCD / LED Display for displaying Set and actual temperature. 5. Seven days chart recorder with battery backup for continuous operation during power failure. 6. Should have adjustable audiovisual high/low alarm facility for temperature deviations from set value. 7. Refrigeration system should be heavy duty air cooled forced air refrigeration system using non CFC refrigerant. 8.Chamber mounted electrical outlet for the agitator should be available
3.2	**B. SPECIFICATION OF AGITATOR:** 1.Should be able to store minimum of 48 platelet bags. 2. Gentle side to side motion (1.5" or 38 mm) with 65 ± 5 strokes per minute. 3. Removable drawers for storage of any size bags. 4. Sturdy one piece drawers with holes for complete air circulation across both surfaces of platelet bags. 5. Heavy duty ball bearing gear motor for noiseless and continuous operation for 24 hours a day 365 days a year. 6. Built in audiovisual motion alarm. 7. Should have pause button
4 System Configuration Accessories, spares and consumables	
4.1	System as specified-
4.2	Comprehensive Warranty for 2 years & CMC for 5 years after warranty period.
4.3	Should provide temperature recording charts for one year.
5 Environmental factors	
5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90%
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
6 Power Supply	
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	Constant Voltage Transformer /stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)
7 Standards and Safety	

7.1	Should be FDA , CE, BIS approved product		
7.3	Should be compliant with IEC 61010-1: covering safety requirements for electrical equipment for measurement control and laboratory use.		

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	Certificate of calibration and inspection from Manufacturer.		
8.3	List of important spares and accessories with their part number and costing.		
8.4	Satisfactory performance certificate from Reputed Government Of India Institutions should be submitted at the time of bidding.		

SCHEDULE NO.:67

Platelet Agitator with Incubator-Large Volume

1 Description of Function	
1.1	Platelets need to be stored under agitated (with agitator) and controlled temperatures (in the incubator).
2 Operational Requirements	
2.1	Flat bed agitator fitted inside a temperature controlled incubator operating with CFC FREE refrigerant gas and insulation material.
3 Technical Specifications	
3.1	A.SPECIFICATIONS INCUBATOR: 1.Construction Material: (a)Internal: Galvanized steel with bacteria-resistant powder coating (b)External: Corrosion resistant coating at least 1 mm thickness.(c) Door should be of transparent material and should have one hand operation with locking facility. 2. Incubator should have capacity to place agitator having capacity of 96 bags 3.Should be able to maintain a temperature of 22 deg 4.Should have LCD / LED Display for displaying Set and actual temperature. 5. Seven days inkless chart recorder with battery backup for continuous operation during power failure. 6. Should have adjustable audiovisual high/low alarm facility for temperature deviations from set value. 7. Refrigeration system should be heavy duty air cooled forced air refrigeration system using non CFC refrigerant. 8.Chamber mounted electrical outlet for the agitator should be available
3.2	B. SPECIFICATION OF AGITATOR: 1.Should be able to store minimum of 96 platelet bags. 2. Gentle side to side motion (1.5" or 38 mm) with 65 ± 5 strokes per minute. 3. Removable drawers for storage of any size bags. 4. Sturdy one piece drawers with holes for complete air circulation across both surfaces of platelet bags. 5. Heavy duty ball bearing gear motor for noiseless and continuous operation for 24 hours a day 365 days a year. 6. Built in audiovisual motion alarm. 7. Should have pause button
4 System Configuration Accessories, spares and consumables	
4.1	System as specified-
4.2	Comprehensive Warranty for 2 years & CMC for 5 years after warranty period.
4.3	Should provide temperature recording charts for one year.
5 Environmental factors	
5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90%
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
6 Power Supply	
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)
6.3	Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.
7 Standards and Safety	

7.1	Should be FDA or CE or BIS approved product		
7.2	Manufacturer/Supplier should have ISO certification for quality standards.		
7.3	Should be compliant with IEC 61010-1: covering safety requirements for electrical equipment for measurement control and laboratory use.		

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	Certificate of calibration and inspection from Manufacturer.		
8.3	List of important spares and accessories with their part number and costing.		

Schedule No: 68

Platelet Aggregometer

Specifications:

1. Should have sensitive optical detection device to determine difference between prp and pp channels.
2. Should involve low sample volumes of order of 250 to 500l L
3. Should have facility for von Willebrand co factors assays.
4. Should have facility for testing ADP, Risocetin Co-factor software.
5. Should have adjustable stirrer speed between 400 to 1200 rpm.
6. Should be able to calculate test results in percentage of activity.
7. Should have facility to store standard curves for future use.
8. Should have 6 wells for incubating samples at around 37 degree C before running the test.
9. Should have LCD display for temperature heater block.
10. Should have windows based data management system.
11. Should be able to give color print out of aggregation curve and other results.

Requirements:

1. Suitable UPS with one hour back up.
2. All accessories and supplies needed to start operation should be available with the system.

Schedule No: 69

Pre Vacuum High Pressure Jacketed Horizontal Steam Sterilizer

Specifications:

Microprocessor controlled steam sterilizer with provision for manual operation facility.
Inner Chamber Size : 1000 -1100 mm (W) x 1100 - 1400 mm (H) x
2000 -2200mm (L)
Electrical Power : 18 to 36 KW Or Sufficient wattage of industrial
immersion type water heater to generate steam with
in a reasonable period of time on 3 phase 440 v 50
HZ ac supply.
Working pressure
and Temperature : 15-30 Psi up to 135 degree C
Material of construction
Inner chamber , Jacket, Door : SS 316.(5mm-10mm)
Outer Chamber : SS 304 (insulated properly)
Steam generator : Non corrosive SS /Chromium plated Brass
Heater Plate : Brass/Stainless steel
Pipe Line : Complete with SS
Stand : Stainless Steel/High quality non corrosive
Steel Instrumentation
Temperature , Pressure and vacuum gauges
Steam traps , vacuum driers, water level indicator on steam generator Safety devices
Pressure switch and safety valve, self-locking of door when chamber is under pressure:
vacuum breaker for jacket
Steam generator with gauge glass valves and
Low water protection with audiovisual indicator.

Additional Accessories required: 1. Heating element 2 set extra with each machine

Requirements at installation:

1. Necessary Pipeline works for water inlet and steam outlet should be done by the provider.
2. Cable for connecting to wall socket should also be provided

Optional Accessories (To be quoted separately):

1. Gaskets
2. Valves
3. Heating element

Schedule No: 70

Refrigerated Centrifuge for Blood Bank (High Volume)

1 Description of Function	
1.1	The Refrigerated Centrifuge (RC) is a mechanical device used to separate blood components.
2 Operational Requirements	
2.1	Programmable microprocessor control system with self-diagnostic feature
2.2	Operation: Unlimited and defined programming of all parameters, automatic programming sequence controlled by microprocessor, digital display of nominal and actual values.
2.3	User-friendly Equipment should be moveable on castor wheels which can be locked during operations; need for ground fixing. Easy to read digital display for controlling basic functions and equipped with an automatic lid lock
3 Technical Specifications	
3.1	Max. Speed: 4,200 rpm or more
3.2	Max. Rcf 6,000 x g, adjustable at 1 g steps
3.3	Memory with tamper proof facility
3.4	Max. Volume: 12 quadruple blood bag systems each 800 – 1000 ml
3.5	Temperature range: -10°C / + 40°C.
3.6	Temperature adjustable within 1 deg C regardless of the centrifuge speed.
3.7	Timer 1 - 99 minutes and hold position
3.8	Motor imbalance detection: Automatic shut down of centrifuge if rotor load is out of balance with appropriate indicator.
3.9	Stainless steel chamber: Easy to clean, corrosion resistant with provision of both drain and condensed water collection container.
3.10	Totally HCFC, CFC free refrigerant fluid and insulation
3.11	Drive unit: Directly and maintenance free induction drive
3.12	Program memory: Capacity to store 30 or more centrifugation programs
3.13	Digital display and adjustment parameters: Acc/Deceleration: 9 acceleration/10 deceleration profiles Centrifugal time: 3 digits, in hr and min, range 1 min – 99 hr operation Temp. control range: - 20degC to 40degC Interference display: Program error, imbalance, lid open, internal interference
3.14	Should have lockable castors.
3.15	Should have a security lock to prevent unintentional switch off.
4 System Configuration Accessories, spares and consumables	
4.1	System as specified-
4.2	Swing-out rotor with 6 buckets for altogether 12 units of quadruple blood bags Volume per bucket: 2 x 800 – 1000 ml
4.3	Plastic insert, complete with spacers to spin triple blood bags for Red Blood Cells , Plasma (PRP or FFP)

4.4	Plastic insert, to spin quadruple blood bags, for Red Blood Cells, Plasma (PRP or FFP) platelets		
4.5	Inserts with hook adapter, to spin buffy coat or small volumes of blood		
4.6	Balancing weights for inserts		

5 Environmental factors

5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90%		
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 - 40deg C and relative humidity of 15-90%		
5.3	Shall meet IEC-60601-1-2:2001 General Requirements of Safety for Electromagnetic Compatibility.		

6 Power Supply

6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug		
6.2	Constant Voltage Transformer/stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)		

7 Standards and Safety

7.1	It should have a security lock to prevent unintentional switch off and also unauthorised opening of the instrument.		
7.2	Should incorporate Safety Features for Imbalance detection, lid interlock, over temperature, rotor over speed etc		
7.3	Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450		
7.4	Should be FDA or CE approved product		
7.5	Should comply with IEC/TR 61010-3-020 :Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 3-020: Conformity verification report for IEC 61010-2-020:1992 Particular requirements for laboratory centrifuges"		

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out		
8.3	Certificate of calibration and inspection from factory at the time of installation & every 6 months in AMC.		
8.4	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.		
8.5	List of important spare parts and accessories with their part number and costing available in stock with the supplier.		
8.6	Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.		
8.7	Documentation: Possible connection to a computer, upgrading with monitoring system should be possible		

Schedule No:71

FULLY AUTOMATIC MOTORIZED ROTARY MICROTOME

1. Fully automated motorized rotary microtome along with manual operation having microprocessor controlled panel with provision for motorized cutting via operating panel or foot pedal control
2. Precise Micrometer feed system via stepper motor permits precision sectioning selectable at least from 2.0--40/60 micron in 0.5 micron increments.
3. Trimming section selectable from 2 micron onwards.
4. The vertical specimen stroke length of 70mm, larger specimen can be sectioned. The specimen holder should be clamp type and hold 60 mm size block.
5. Suitable Knife holder for high profile and low profile should be provided.
6. The specimen retraction should occur on return stroke.
7. Knife angle position locking facility should be provided.
8. Cold light source.
9. Precise specimen orientation with zero point indication, with an orientation 8 ° X-Y axis helps in making perfect orientation of the sample for sectioning.
10. Motorized coarse feed in two speeds 30 micron/sec and 90 micron/sec. Variable sectioning speed adjustable from 0.5 to 420 mm/sec.
11. Disposable blade holder with lateral displacement feature that can hold both high and low profile blades and knife holder which can accommodate 16 cm C& D type knives.
12. Knife holder should be vibration free.
13. Integrated section waste tray.

Essential Accessories should be each quoted separately:

1. Microtome disposable blades (high profile coated) – 20 packets (50 blades /pack) [1000 nos.]
2. Microtome disposable blades (Low profile coated) – 2 packets (50 blades /pack)
3. C type Knife 16 cm - 3 Nos.

Cold plate (Dry Type).

Schedule No: 72

Sleep Lab (Advanced)

1 Description of Function

1.1	Sleep lab system is required to study the sleep disorders by recording and analyzing the parameters like EEG, SPO2 ETC when the patient is sleeping.

2 Operational Requirements

2.1	The sleep system is required with all the equipments and computer with analysis software with printer

3 Technical Specifications

3.1 **SPECIFICATIONS OF SLEEP SYSTEM**

(1) Ambulatory polysomnography with 26 channels and upto 8 of these should be EEG , should be light and compact. The basic unit should not be more than 500 gm. including batteries.

(2) Should have latest touch screen for device configuration , impedance measurement and signal control.

(3) Following parameters should be recorded ;

(a) 8 AC signals for EEG,EOG,EMG,ECG and IC-EMG.

(b) flow by using a thermistor (nasal-oral) or using a nasal cannula.

(c) Effort should be measured using piezoelectrical sensors.

(d) Pulse frequency and oxygen sensor should be measured with a finger clip attached to the interval pulse oximeter.

(e) Snoring detected by a microphone.

(f) Body position (back,stomach,left,right) by means of an integrated body position sensor in the patients yoke box.

(g) Estimation of sleep and wake phases should be measured using accleration sensor attached to patient wrist.

(h) Light sensor integrated in the base unit to measure actual time in bed.

(i) NCPAP/BiPAP pressure and flow.

(j) Possibility for software to generate a sum of both effort signals, and heart frequency generated from ECG.

(k) Necessary signals (EEG, EOG.EMG) required for sleep staging should be bundled into one cable/plug harness.

	(l) Sleep Stage Analysis should be based on criteria of R & K. The average frequency value of the central EEG lead should be calculated, sleep spindles, K-complexes, REMs and movement arousals should be detected and displayed. (m) The displayed amount of sleep interruption within specific time intervals should provide information about the disorder of sleep architecture. (4) Should have built – in pulse oximeter, display should be 120 x 64 pixel b/w , touch screen memory = PCMCIA or compact flash card , 96 MB memory , optional 160 MB. Pulse Oximeter – 75% - 100% Range (5) 7 aux. Channels to connect to external sources like PH , et CO2 , temperature , Oesophagus pressure , NPT etc. (6) Software based on windows platform and after transferring the data to PC , the data should be analyzed automatically with a clear over view of the final result. (7) Computer assisted analysis or even complete manual evaluations should be possible. The analysis software should also evaluate measurements of children and infants taken specific aspects such as periodic breathing into consideration. (8) The yoke box incl. Integrated body position sensor should not be more than 250 gms. (9) Internal storage of raw data and automatic gain adjustment for perfect amplification of the respiratory signals should be possible. (10) Computer specification :CPU Pentium Core 2 Duo 2.7 GHz and above;512 MB RAM;1.44 MB Floppy drive;120 GB Hard Disk Drive; High Speed DVD/CD Rom 52 X: Serial .USB and parallel ports ;Keyboard (IOS) , Mouse and Mouse Pad; Preloaded latest MS Windows Versions;LD/TFT SVGA Monitor size 17";Inkjet printer; Modem 56K;latest anti-virus SOLOMAN & NORTON..
4	**System Configuration Accessories, spares and consumables**
4.1	System as specified
4.2	All consumables required for installation and standardization of system to be given free of cost.
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 -40deg C and relative humidity of 15-90%

6 Power Supply			
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug		
6.2	UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.		
7 Standards, Safety and Training			
7.1	Should be FDA , CE,UL or BIS approved product		
7.2	Manufacturer should be ISO certified for quality standards.		
7.3	Shall be certified to be meeting the safety standards IEC- 60601-2-26 PART 2: Particular requirements for safety of EEG Systems.		
8 Documentation			
8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	Certificate of calibration and inspection.		
8.3	List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.		

Schedule No:73
Sternal saw Electric

Sternal saw (Electrically Operated)

The system should contain the following features:

1. Electrically operated motor control unit with forward and reverse speed motor.
2. Power cable with motor working with the power supply 220-240 VAC 50Hz
3. Should contain a foot control paddles with waterproof and anaesthetic agent proof.
4. Sternal saw unit should be complete and compatible for both Reciprocating as well as Oscillating Saw Blades with Blade Protector and should be Light in weight.
5. Overheating cut off of motor with reset facility.
6. Additional blades 10each of normal and redo (Oscillating)
7. Saw should be in all respects complete and ready to use
8. Flexible cable with minimum 180 cm in length.
9. Should provide minimum1 Nos. of sterile micro oil 300 ml

Schedule No:74

SPECIFICATION FOR TEN- HEAD RESEARCH MICROSCOPE

The instrument should be sturdy, fitted with par focal, plan achromatic objectives 2/2.5x, 4x; 10x, 20x ,40x (spring loaded) and 100x (spring loaded) on a reversed sextuple nosepiece with click stops.
The optical system should be color corrected for infinity with antifungus property built in transmitted Koehler illumination.
The microscope stand should have co-axial focusing knobs for coarse and fine adjustment with upper limit stopper
Preset button for automatic light intensity level for photomicrography.
Wide field high point eye piece 10x, 22 mm with diopter adjustment (+2 to -8) and rubber eye shield (pair) with interpupillary distance of 48 to 75 mm.
Trinocular eye piece inclined at 30 – 45° with 360° rotation.
Rectangular scratch resistant stagewith right hand control with double slide holder and vernier calipers on X Y axis.
Plan achromatic universal type swing-out condenser (Dry Type) with numerical aperture 0.9- 1.2.
Transmitted light filters for day light, green and neutral light with density filters built-in the basic stand.
Illumination – 12 V, 100 W quartz halogen lamp with long life.
Power – 220 + 10 V, 50 Hz
Vinyl dust cover
Multihead ergonomic 1 Trinocular set (with three way light path selector, 100:0; 80:20;0:)+ 9 Binocular heads (2 on each side of main head and 5 on opposite side, fitted on to 6x4 feet table) with complete two color pointer unit (2 pc), ac adapter (1 pc), power cord (1 pc)
All the necessary adaptor and power card should be provided for functioning of microscope.
One additional halogen lamp should be provided.
Polarizer and analyzer should be provided.
Instruction and operational manual
Suitable table should be provided and the microscope installed.
Optional accessories (to be quoted separately):
1. Digital Camera
Fire wire digital camera with the following features: Recent model with 7 mega pixels CCD camera with appropriate lens system and mounted.
2. Halogen Lamp – 2Nos.

Schedule No:75

Video Thoracoscope

1 Description of Function

1.1 A Thoracoscope is a thin, tube-like rigid endoscope instrument with a light and a lens for viewing.

2 Operational Requirements

2.1 Thoracoscope with video processing and monitoring is required

3 Technical Specifications

3.1 SPECS OF SCOPE:

1. Direction of view should be zero degree.
2. Minimum of 100 degree (app) of field of view.
3. Range of observation from 5 mm to 90 mm. (app)
4. Angulations of tip not less than 200 deg (Up) and 90 deg (down) with right to left movement of minimum 100 deg. (app)
5. Insertion tube outer diameter of less than 8 mm with a working length of not less than 250 mms.
6. Distal end of less than 8 mm.
7. Instrument channel of more than 2.5 mm
8. Compatible with the video system specified.

3.2 Video processor with light source & Monitor

1. Power supply 200-240 V A/C
2. PAL type video signal. The camera should be 3 chips CCD with high definition (HD) Output with provision of recording on hard disk, mini DV: disk or tape.
3. Controls for colour adjustment, to enhancement and balance settings.
4. Controls to freeze images enhance a portion of frozen image (zoom & post-processing).
5. Patient and physician data input keyboard.
6. Operates on Xenon lamp.
7. Emergency lamp.
8. 19" LCD colour monitor with XGA resolution.

4 System Configuration Accessories, spares and consumables

4.1 System as specified

4.2 1. Rod lens Telescope 0 degree 10mm, Length 31 cm
2. Rod Lens Telescope 30 degree 10mm, Length 31 cm
3. Trocar 6mm with blunt tip flexible cannula and silicone leaflet valve
4. Trocar 9mm with blunt tip flexible cannula and silicone leaflet valve
5. Trocar size 11mm with blunt tip flexible cannula and silicone leaflet valve
6. Trocar size 11mm with blunt tip cannula with thread
7. Manhes dissecting and grasping forceps size 5mm
8. Kelly dissecting and grasping forceps size 5mm
9. Babcock grasping forceps size 5mm
10. Bowel grasper rotating 5mm
11. Scissors rotating with connector pin, spoon blades, double action jaw, size 5mm

12. Scissors rotating serrated, curved, conical and double action jaw size 5mm
13. Micro hook scissors and single action jaw, size 5mm
14. Scissors dismantling rotating serrated, single action jaws bayonet shaped size 5mm
15. Needle driver Parrat-Jaw straight handle with ratchet length 33 cm
16. Assistant Needle driver Flamingo Jaw straight handle length 33 cm
17. Manhaes grasping forceps rotating size 5mm atraumatic single action jaws
18. Suction & irrigation with two way stop cock
19. Bipolar & Monopolar high frequency cord with 5mm plug
20. 3 Chips Camera PAL having Digital Imaging Processor
21. Cold Light fountain Xenon 175 power supply 100-125 / 220-240V AC, 50/60 Hz complete
22. TFT Monitor PAL 19" (inch) maximum resolution 1280x1024
23. Video Cart
24. Fibre Optic cable
25. 0 degree, 30 degree & 60 degree upward & downward angulated Rongeur forceps 33 cm shaft.
26. 90 degree & 45 degree punch with 30 cm shaft.
27. Clip Applicator 5 mm & 10 mm.
28. Fan Retractor.
29. Endo GI stapler for stapling Bronchi & Vessels.
30. Needle Holder 5 mm & 33 cm long.

5 Environmental factors

5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%

5.2 The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug

Schedule No: 76

MICROSCOPES

Optical System:

Infinitely corrected optics par focal, plan achromatic lenses with anti fungal properties.

Illumination:

Built in transmitted Koehler illumination.

6 V, 20 to 30 W halogen bulb

220-240V 0.85/0.45A 50Hz

Focusing

Stage height movement by roller guide (rock & pinion)

Upper limit stopper

Tension adjustable on coarse focus adjustment knob

Revolving nosepiece

Quintuple with inward tilt

Observation tube:

Tube inclination – 30 -45 ^{0}

Interpupillary distance adjustment range – minimum 50 to 70 mm

3 position Trinocular head with 22 m FOV eyepieces

Stage

Movement range – 76 mm X - direction X 50mm Y - direction

Rectangular scratch resistant stage with right hand control with double slide holder and vernier calipers on X Y axis.

Condenser

Type – Abbe condenser

N.A. – 1.2 dry type

Aperture iris diaphragm - built – in

Objectives, Plan Achromat 4x, 10x, 20x, 40x & 100x

Minimum working distance for 100X should be 0.13 to 0.2 mm

Eyepiece

10X with F.N 20

All the necessary adapters and power cords should be provided for functioning of microscope.

Schedule No: 77

TRINOCULAR RESEARCH MICROSCOPE –IMMUNOFLUORESCENCE

Should be ideal for Bright field, Phase contrast, Dark field, fluorescence, Polarizationwith live Digital Camera & Image analysis System with two additional eye pieces.

1. The optical system should be of color correction for infinity with antifungus property.
2. Sturdy stand with built-in power supply for 12 V 100 W Halogen Lamp with input voltage from 90-250V, 50Hz.
3. Transmitted light filters for day light, green and neutral; density filters built-in thebasic stand
4. 6 position objective nose- pieces.
5. 3 position Trinocular head with 10X22 m FOV eyepieces dipole displacement (+2 to -8) upper eyes lid (pair) intra with inter papillary distance of at least 50 – 70 mm adjustable to accommodate observer height to a minimum range of 20_0 . with pull out light path selector of 100:0, 80:20 and 0:100
6. Adjustable focus knobs to meet individual requirements.
7. Ultra hard Ceramic stage
8. Preset button for automatic light intensity level for photomicrography
9. LED display for intensity level
10. Universal turret TYPE swing-out condenser for bright field, dark field, phase contrast studies with N.A. 0.9 - 1.4
11. Objectives (Fluorite lenses)
Infinity plan apochromatic 2/2.5x
Infinity plan apochromatic 4x NA 0.10WD 18.5 mm
Infinity plan apochromatic Phase 10x NA 0.25 WD 10.6 mm
Infinity Plan apochromatic Phase 20x NA 0.40 WD 1.2 mm
Infinity plan apochromatic phase 40x NA 0.75 WD 0.51mm
Infinity plan apochromatic phase 100x oil NA 1.30 WD 0.13 – 0.2 mm
One extra lens according to the need
12. Epi fluorescence illumination system with 100 W Hg illuminations, filter blocks for UV, blue and green excitation. The system should have filter blocks on a turret.
13. Polarizer and analyzer for transmitted light.

Optional accessories to be quoted separately:

1. Digital Camera, 24 bit colour, 5 ***– 10*** megapixels or more, capable of being controlled by a computer to which the camera will be attached, at least 10 frame per second refresh rate for live picture viewing, camera control software to be installed on the computer with capability for low light (fluorescence) as well as bright field imaging with appropriate lens system for mounting on trinocular microscope.
2. Image analysis: system for capture, morphometry, thresh holding (grey level profiling) and analysis, annotation, etc.
3. Latest configuration compatible Computer with printer for camera control, image capture and image analysis system with UPS.

Accessories :
1. One additional mercury halogen lamp.
2. 5 Halogen Lamps

Schedule No: 78

ULTRASONIC ASPIRATOR FOR MICRONEUROSURGERY

1 Description of Function	
1.1	Ultrasonic aspirators use mechanical ultrasonic vibration and an irrigation/suction system to fragment and remove soft tissue and high-water-content growths from various parts of the body.
2 Operational Requirements	
2.1	The system should be quoted with different sizes of hand pieces.
3 Technical Specifications	
3.1	Surgical aspirator should be based on magneto-restriction or piezoelectric technology.
3.2	The hand piece must be cooled if required to prevent overheating by flow of water.
3.3	The hand pieces should be autoclavable and without need to dismantle for autoclaving.
3.4	The vacuum pump should provide preferable the suction of > 500mm of Hg.
3.5	It should have safety features like optical signal for failed hand pieces and signal for failed unit.
3.6	It should have on and off button.
3.7	It should have integral suction with vacuum pressure of-20 to -90 Kpa. in continuous low noise and digital display.
3.8	It should preferably have 1.5 -2.5 liter capacity container of unbreakable material with level sensor and anti-overflow system.
3.9	Compatible Hand piece should be light, preferable 20-55 KHz
3.10	The hand piece should be available in the following sizes:- 1. Standard Size Hand Pieces- Angled & Straight (1 each) 2. Micro tipped- Angled hand piece. (1 each) 3. Long- Angled hand piece.(1 each)
3.11	The irrigation pump should be inbuilt in the unit, the irrigation output 0-65ml/min.
3.12	All hand pieces/ instruments should be detachable.
4 System Configuration Accessories, spares and consumables	
4.1	ACCESSORIES: 1. Trolley from OEM. 2. Assembly kit for aspirator- 1 3. Infusion bottle holder-1 4. Double foot switch-1 5. Cleaning brush for instrument lumen-2 6. Instrument connection cables- 2 7. Suction / irrigation tubing (5meter each), silicon twin tube-20 8. Autoclavable compatible instrument tray. 9. Protective cover-4 pieces.
5 Environmental factors	
5.1	The unit shall be capable of being stored continuously in ambient temperature of 0-50deg C and relative humidity of 15-90%
5.2	Thu unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of less than 70%
5.3	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.
6 Power Supply	

6.1	Power input to be 220-240 VAC, 50Hz fitted with Indian plug		
6.2	Resettable over current breaker shall be fitted for protection		
6.3	Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)		
6.4	Suitable UPS with maintenance free batteries for minimum two-hour back-up should be supplied with the system.		

7 Standards, Safety and Training

7.1	Manufactures/Supplier should have ISO certificate to Quality Standard.		
7.2	Should be compliant with IEC 61010-1:(or any international equivalent e.g. EN/UL 61010) covering safety requirements for electrical equipment for measurement control and laboratory use		
7.3	Should be FDA , CE or BIS approved product		
7.4	Comprehensive training for lab staff and support services till familiarity with the system.		

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	Certificate of calibration and inspection.		
8.3	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.		
8.4	List of important spare parts and accessories with their part number and costing.		
8.5	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.		
8.6	Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.		

Schedule No:79

Urodynamic System 6 Channel (Low End).

1 Description of Function

1.1 The Urodynamic system should have a 6 channel microprocessor based compact system with a high resolution colour monitor for the Urodynamic study for Neurovesical dysfunction. The equipment should be modular design and should be able to carryout different tests like Uroflowmetry, Cystometry (**Saline**), Electromyography **(Needle and Surface)** (EMG), Urethral pressure profile (UPP), Pressure flow study (PFS), Video Urodynamics, Bladder/Valsalva leak point measurement.

2 Operational Requirements

2.1 The equipment should be modular design and should be able to carryout different tests like Uroflowmetry, Cystometry (**Saline**), Electromyography **(Needle and Surface)** (EMG), Urethral pressure profile (UPP), Pressure flow study (PFS), Video Urodynamics, Bladder/Valsalva leak point **pressure** measurement

3 Technical Specifications

3.1 The pre set program should be done on the screen according to selected tests

3.2 There should be online monitoring of measurement up to six parameters with simultaneous measurement of three direct pressure studies like vesical, abdominal and urethral

3.3 There should be a high resolution, medical grade 17" TFT monitor with speaker & microphone with a dedicated controlled keyboard, mouse and speakers for EMG **with software designed to insert remarks.**

3.4 Facility for fully automatic comprehensive patient filing & report generation with editing/post processing mode. Appropriate software for analysis of data including p-q Plot & Stress profile. **Software should be compatible with windows XP, Vista and all indices should be computed such as compliance, AG number, Schaffer's Nomograms, DCI and so on.**

3.5 The pressure transducers should be **extremely sensitive and** of long life transducer so as to last for more than 8-10 years The Uroflowmetry should have rotating disc transducer or weight transducer so as to provide graphical representation of relation between detrusor pressure and uro-flow rate. **Provide an extra uroflometer.**

3.6 The equipment should have control panel inside the equipment to avoid water spillage.

3.7 Advanced window based Software for operating, analyzing & report generation with templates of full text. **Facility of transferring data on window XP/Vista should be compatible.**

3.8 Flowmetry: Range – 0-60ml/sec; Volume – 2 **Ltrs**
Transducer – Rotating disc type/weight transducer

3.9 Pressure Study: Range: 1 – 250 cm of water; Transducer – Long life

3.10 Needle and Surface EMG

3.11 Water Pump Unit: Infusion Rate – 2-10ml/min, Increment – 1ml/min
–10-100ml/min, Increment – 5ml/min **to 50 ml/Min**

3.12 Console : Pentium **Core Quad/Core 2 Duo** or more with a hard disk drive (HDD) – **250GB** & **RAM-2GB, Multiple USB ports**, DVD-writer for recording of DVDs/CDs

3.13 Equipment should have Uro-Video system with facility to super-impose the bladder images on graph tracing and PIP with graph tracing. Facility for Digital video recording **and direct Video transmission so as to be compatible to be viewed on screen during workshops.**

3.14 Patient Unit should include :

Advanced multiaxis, Fluoroscopy compatible, Rotatable chair cum trolley –1, Pole – 1, 17" Monitor with speakers & microphone-1, Water Pump Unit with 30 infusion sets, EMG Module-1, Pressure Transducer -3, Uroflowmetry transducer-1, **Automated** Puller for urethral pressure profile study.

3.15 Software in Original: Windows XP, Office XP - Latest & compatible

3.16 Facility to connect with hospital information system (HIS - VII) and to transfer data through cable.

3.17 Suitable Micturition chair - **Advanced multiaxis, Fluoroscopy compatible, Rotatable chair cum trolley.**

3.18 The Urodynamic system should be up gradable for future with technical advances

3.19 Suitable **Colour** Laser Printer.

3.20 C – Arm with 9" Dual Field IITV and **suitable** diagnostic Ultrasound system to be integrated with the Urodynamic system.

C-ARM IMAGE INTENSIFIER

Sl no	Features
1.	**Generator** Microprocessor controlled High Frequency generator with **2 Kw** or More with integrated beam filters to reduce patient skin radiation dose
2.	**Collimator: IRIS or multi leaf**
3.	**X Ray mode (kV & mA range):** KV- range 40- 110KV Fluoroscopy- a) Fluoroscopy should not exceed 5 mA . b) Pulsed Fluoroscopy with last Image Hold c) **Continuous Fluoroscopy for min 3 – 5 Min with video recording**. Radiography – Radiographic mode for cassette exposures: minimum of 20mA
4.	**Image Intensifier:** 9"or More **dual** Mode Image Intensifier with CCD Camera
5.	**Image Processing:** a) Minimum 8 bit Digital Fluoroscopy Imaging Unit with dedicated video pipe-line processor b) Archival memory CD/DVD mode. c) Detachable Cassette holder for film recording.
6.	**Image Display:** Two **15"** TFT/ LCD High resolution, high contrast and flicker free Monochrome Monitors of at least 1024 X 1024 matrix with automatic adaptation of monitor brightness to ambient light
7.	**System Functionality:** Vertical ,Horizontal and Orbital Travel should be available C arm rotation 130 degree or more
8.	**The System should be DICOM ready**
9.	**Accessories:** a)Wrap around light weight vinyl Lead Aprons with 0.5 mm lead equivalence certified by BARC or AERB or ISO : 2 (Two Nos.) b) Thyroid Collar. c) Gloves.
10	**System should be AERB approved**

4 System Configuration Accessories, spares and consumables

4.1 System as specified-

4.2 All consumables required for installation and standardization of system to be given free of cost as mentioned below:

Dampening tube-24, **Triple lumen catheter 5 – 7FR -50**, Infusion set-**30**, Y-Piece-4, Three way stop cork-50, Disposable Domes-50, Rectal catheter-**50**, Concentric needle electrode-10, Ground Electrode-4, Surface Electrode-12, Pressure line (150cm) – 50, Anal plug electrode – 2

5 Environmental factors

5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90%

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug

6.2 On line UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.

7 Standards, Safety and Training

7.1 Should be **US FDA approved (Enclosed Copy)**

7.2 Manufacturer/Supplier should have ISO certification for quality standards.

7.3 Shall comply with IEC 60601-2-16 SAFETY requirements of medical electric equipment part2- particular requirements for the safety of Haemodialysis equipment.

7.4 Comprehensive training for lab staff and support services till familiarity with the system.

8 Documentation

8.1 User/Technical/Maintenance manuals to be supplied in English.

8.2 Certificate of calibration and inspection.

8.3 List of Equipments available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service/technical manual.

8.4 List of important spare parts and accessories with their part number and costing.

8.5 Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist.

8.6 The job description of the hospital technician and company service engineer should be clearly spelt out

Schedule No:80

Ventilator-Paediatric/ Infant

1 Description of Function

Sl	Name		
1.1	Paediatric/Infant Ventilators provide artificial respiration support to infants and neonates in ICU/Wards.		

2 Operational Requirements

Sl	Name		
2.1	The Infant Paediatric ventilator should be easy to operate and should incorporate safety alarms and backup ventilation.		
2.2	Microprocessor Controlled integrated suitable for neonate and child ventilation.		
2.3	Demonstration of the equipment is a must.		

3 Technical Specifications

Sl	Name		
3.1	Should have not less than 10 inch colored TFT screen for monitoring of the ventilation parameters, curves and loops		
3.2	Automatic compliance & Leakage compensation for circuit and ET tube		
3.3	Should have the facilities for following setting for neonate to child a) Tidal Volume b) Flow Pattern c) Inspiration Plateau d) Pressure ramp e) SIMV Rate f) CPAP/PEEP g) Pressure Support h) FiO_2 i) Pause Time j) Inspiration trigger sensitivity to flow & pressure k) Base Flow l) Sensitivity for cycling to expiration		
3.4	Should have the capability of monitoring of the following parameters, a) Airway Pressure b) Expired tidal Volume c) Minute Volume d) Spontaneous Minute Volume e) Total Frequency f) FiO_2 g) Auto PEEP h) Rapid Shallow Breathing Index i) Plateau Pressure j) Inspiratory & Expiratory Resistance k) Static Compliance l) Imposed Work of Breathing		

	m) Peak, Plateau and mean airway pressure Plateau Pressure		
3.5	Should have the Alarms (User Selector) for all the measured and monitored parameters.		
3.6	Should have the following Modes of ventilations, a) Volume controlled b) Pressure Controlled c) Pressure Support d) SIMV (Pressure Control and volume control) with pressure support. e) CPAP/PEEP (0 – 50 CM H20) f) Auto mode /Auto flow preferable g) PRVC h) Biphasic preferable i) High frequency ventilation (Optional)		
3.7	Sensors should be automatically calibrated every time it is switched on		
3.8	Should have the ability to calculate a) Intrinsic Peep b) Occlusion Pressure c) Negative Inspiratory force		
3.9	Medical Air Compressor (Optional) a) Stand alone Medical Air compressor b) Snap fit with the Ventilator module to provide an oil free Medical air. c) Peak output flow should be minimum 160 LPM. d) Air quality should comply with ISO compressed air purity class. e) Medical Air Compressor should automatically activate in the event of wall air supply loss. f) Replacement of internal filters should be performed without removing the compressor g) Should have washable air filter.		
3.10	Nebuliser with capability to deliver particle size of < 3 micron & to be used in both Off and On line		

4 System Configuration Accessories, spares and consumables

Sl	Name		
4.1	(a) Infant Paediatric Ventilator – 1 (b) Exhalation Valve – 2 with each Ventilator		
4.2	Humidifier -Servo controlled with digital monitoring of inspired gas temperature complete with heating wire-01		
4.3	Nebulizer compatible with ventilator-01		
4.4	Medical Air Compressor (optional)		
4.5	Air Hose-01		
4.6	Oxygen Hose-01		
4.7	Paediatric autoclavable/reusable silicone breathing circuit-02		
4.8	Infant autoclavable/reusable silicone breathing circuit-02		
4.9	Filter paper for humidifier for 100 uses-01		
4.10	Non corrosive trolley and hinged arm: 01		
4.11	High Pressure Tubings should be compatible with the existing system of gas outlets		

5 Environmental factors

Sl	Name		

5.1	Shall meet IEC-60601-1-2: 2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.		
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 - 40deg C and relative humidity of 15-90%		
5.3	The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90%		

6 Power Supply

Sl	Name		
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug		
6.2	Resettable over current breaker shall be fitted for protection		
6.3	Suitable Servo controlled Stabilizer/CVT		

7 Standards, Safety and Training

Sl	Name		
7.1	Certified to be compliant with ANS/IEC60601.2.12-01 Medical Electrical Equipment—Part 2-12; Particular Requirements for the Safety of Lung Ventilators—Critical Care Ventilators		
7.2	Should be FDA, CE or BIS approved product		
7.3	Manufacturer should have ISO certification for quality standards.		
7.4	Should meet IEC 529 Level 3 (IP3X) (spraying water) for enclosure protection, water ingress.		
7.5	Certified to be compliant with ISO-7767 for Oxygen monitoring.		

8 Documentation

Sl	Name		
8.1	Certificate of calibration and inspection from factory.		
8.2	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.		
8.3	List of important spare parts and accessories with their part number and costing		
8.4	Service manual in English		
8.5	User manual in English		
8.6	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.		
8.7	Must submit user list and performance report within last 5 years from major hospitals.		

Schedule No: 81

Ventilator-Non Invasive

1 Description of Function

1.1 Non Invasive Ventilator provides artificial respiratory support with mask without intubations.

2 Operational Requirements

2.1 Should be microprocessor controlled, portable, light weight. Should operate with main electric supply as well as with battery. Should be able to work both with cylinders and pipeline, connectors and high-pressure tubing of appropriate length to be supplied.

2.2 Demonstration of the equipment is a must.

3 Technical Specifications

3.1 Operation mode: Bi-Level (2 pressure levels) S/T/ST

3.2 Pressure range IPAP: 5-20hPa (mbar)
EPAP: 5-20hPa (mbar)

3.3 Constant display: Pressure value, bar graph, date, time,

3.4 Additional function

- Start-stop-automatic-control
- Fall asleep-ramp 0-60 min
- Leakage test 0-90s
- Date, time and wake-up-function
- Power failure alarm
- Leakage alarm
- Automatic turbine start after power failure
- Time counters: stand-by, turbine running, filter age, therapy
- Adjustable time delay.

3.5 ST-operation -- S: Spontaneous: triggered by respiration
(Trigger sensitivity should be adjustable over a range)
T: Timed: safety frequency (adjustable)
ST: Spontaneous + Timed

3.6 Safety frequency - 5/min-35/min in 1/min-steps, modes:

T and ST

3.7 Inspiration phase: 20% - 80% of respiration phase

3.8 Filter system: 3-layers

3.9 Should be leak compensated.

3.10 Should have facility to supplement oxygen

3.11 Technical Specifications for reusable face mask & nasal mask.

Reusable face & nasal mask with textured dual flap silicone cushion flap for easy fit.

Removable forehead support and pad to match the angle of patient's forehead

Stability Selector for easy fit and angle.

Ball & Socket headgear attachments.

Should be autoclavable.

4 System Configuration Accessories, spares and consumables

4.1 Non Invasive Ventilator-01

4.2 Humidifier (OPTIONAL)

4.3 Adult and Paediatric autoclavable silicone breathing circuits -02 each

4.4 Oxygen enrichment arrangements-01

5 Environmental factors

5.1 Shall meet IEC-60601-1-2:2001(Or Equivalent BIS)

General Requirements of Safety for Electromagnetic Compatibility.

5.2 The unit shall be capable of operating continuously in ambient temperature of 10 - 40deg C and relative humidity of 15-90%

5.3 The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90%

6 Power Supply

6.1 Operating power supply- AC 180V-270V

6.2 Reset table over current breaker shall be fitted for protection

7 Standards, Safety and Training

7.1 Protection against electric shock: Class II

Degree of protection against electric shock: Type BF Applied Part

7.2 Should be FDA/ CE or BIS approved product

7.3 Manufacturer should have ISO certification for quality standards.

7.4 Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements (OR EQUIVALENT BIS Standard) will

7.5 Should meet IEC 529 Level-1(IPX1), (Drip Proof) for enclosure protection, water ingress.

7.6 Should comply with CISPER 11 requirement for group-1 Class-B for radiation conductance and emissions.

8 Documentation

8.1 Certificate of calibration and inspection from factory.

8.2 List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.

8.3 User Manual in English

8.4 Service manual in English

8.5 List of important spare parts and accessories with their part number and costing

8.6 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

8.7 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.

Schedule No:82
Ventilator Neonatal

Equipment Specifications for Ventilators Neonatal

1 Description of Function
1.1 For ventilating neonates, pre mature and infants babies.
2 Operational Requirements
2.1 System with battery back up is required.
3 Technical Specifications
3.1
1. Essentials Ventilator Air Compressor Reusable Circuit with online bacterial filter Humidifier Stand for circuit
Operator manual
Service manual
2. Type of ventilator Continuous flow, time cycled, pressure limited
3. Modes available CPAP, IMV, SIMV, Assist/Control, PSV, Volume Guarantee, Triggers, Flow & Volume triggers
4. Range of set parameters
Peak inspiratory pressure 0-50 cms
Positive end expiratory pressure 0-20 cms
Fraction of inspired oxygen 21-100%
Inspiratory time 0.1- 3 secs
Rate 0-150 bpm
Gas flow 5-15 Lpm
High Frequency oscillator (Price to be quoted separately)
Should be able to ventilate Children including inborns (Wt range 500Gms to 3Kgs)
Should have active expiration
Modes in addition to HFO – CPAP, CMV, PTV, PSV and facility for VG/TTV (Optional)
5. Display Both digital and analog All set parameters as mentioned above Measured parameters
PIP, PEEP, Mean airway pressure
FiO2
Ventilator rate Derived parameters
Te, I:E ratio
Leak percentage
Tidal volume
Minute ventilation Pressure & flow waveforms and loops Alarm message Calibration Silenced alarm
6. Alarms Both audio & visual
Low & high pressure – PIP , PEEP separate
Compressor failure
Failure of sensor/s
Tube obstructed
Power failure
Alarm ventilator failure
7. Humidifier Heater with Flow resistance upto 1 cm H2O/L/Sec **Temperature up to 39 degrees C** Temperature control + 2°C Warm Digital display of temperature- range of display 5-40°C Water level indicator Warm up time less than 15 minutes
Alarms
Heater wire on:

Airway temp: Tracking + 2°C from set temp Chamber temp: If chamber temp varies + 4°C from set temp for 20 minutes or alarms immediately if set chamber is exceeded by 1°C
Heater wire off: Airway temp: Fixed at 41°C high & 29.5 °C
Low Chamber temp: limited to 60°C max Should be compatible with both reusable & disposable chambers and reusable & disposable circuits
Flow / pressure sensor- 20 each
4 System Configuration Accessories, spares and consumables
4.1 System as specified-
4.2 All consumables required for installation and standardization of system to be given free of cost.
4.3 Spares with each ventilator Reusable circuit with Y piece, heater wire, temp probe & adapter - 5 each
Bacterial filter- 5 each
Reusable humidifier chamber - 5 each
Sensor cable- 5 each
Oxygen cells - 2 each
5 Environmental factors
5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
5.2 The unit shall be capable of operating continuously in ambient temperature of 10 - 40deg C and relative humidity of 15-90%
6 Power Supply
6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2 UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.
7 Standards, Safety and Training
7.1 Should be FDA , CE or BIS approved product
7.2 Manufacturer/Supplier should have ISO certification for quality standards.
7.3 Shall comply with electrical safety requirements as per IEC or BIS regulations.
7.4 Comprehensive warranty for 2 years and 5 years CMC after warranty.
Comprehensive maintenance contract for 5 years after warranty CMC should include all the parts of the ventilator including circuit boards, O_2 blender, air compressor, knobs, flow meters etc.
CMC should provide every year per ventilator of following
Humidifier chamber-5
Bacterial filter- 5
Flow/pressure sensors- 20 and
Oxygen cells - 2
7.5 Comprehensive training for lab staff and support services till familiarity with the system.
8 Documentation
8.1 User/Technical/Maintenance manuals to be supplied in English.
8.2 Certificate of calibration and inspection.
8.3 List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.
8.4 List of important spare parts and accessories with their part number and costing.
8.5 Log book with instruction for daily , weekly, monthly and quarterly maintenance checklist.
The job description of the hospital technician and company service engineer should be clearly spelt out

Schedule No:83

Whole Body Dual Energy Absorptiometry Dexa Machine

S. No.	Specifications
1.	Technology should be based on fan x-ray beam geometry with following features: a) Dual energy mode of KV selection. b) Detector system should be multi-element solid state array type. c) Table movement should be motorized with C-Arm. d) Quality control should be automatic with internal phantom or self calibrating with anthropomorphic phantom.
2.	Precision accuracy should be within 1%.
3.	Applications: Should be applicable for whole body parts as well as for paediatric use.
4	Result: Should be available with BMD, BMC, T-Score, Z-Score, reference, data, trend report, WHO diagnostic classification of fracture risk etc.
5.	Should be DICOM compatible with connectivity for remote interpretation & e-reporting (text report and images).
6.	Must include standard hardware which includes Pentium - Dual Core Technology with minimum 80 GB hard drive, minimum 512 MB RAM with net work card, 19" LCD Monitor, Laser Colour printer, DVD/CD R/W drive (1000 DVD/CD may be supplied with the unit).
7.	Standard voltage stabilizer/UPS with 30 minutes back up to be provided.

Schedule No:84

COMPUTERISED RADIOGRAPHY

Specifications for State of the art Latest Generation Computed Radiography (CR) system for high resolution Digital radiography

Features	Remarks
Technical Requirements -CR system configuration shall include: a) Imaging plates (IP) b) Image reader system c) CR workstations d) RIS interface e) Remote ID and Preview stations f) Accessories and consumables g) Laser Imager	
CR Compatible imaging plates Following sizes are required - a) **35 cm x 43 cm** - 20 Nos. b) **35 cm x 35cm** - 14 Nos. c) **24 cm x 30 cm** - 14 Nos. **d) 18 cm x 24 cm** - 12 Nos. **e) 15 cm x 30 cm** - 12 Nos.	
Image reader shall meet the Functional requirements : a) Various image-processing protocols available for the respective regions of the body b) IP processing rate should be about 70 plates/hour c) Mechanism for accepting exposed Imaging Plates with out patient demographics, for Causality /Trauma workflow requirement d) Mechanism for Re-routing the newly acquired Images to the preconfigured CR workstation e) Capability of retrieving (Service Intervention) at least last 10 scanned images, as part of contingency plan. f) Capability for quick check of the image and exam data of at least the last 4 Imaging Plates scanned at the x- ray room g) Protocol for verifying the connectivity status of configured image destinations h) Spatial resolution of the digital image shall preferably be 2kx2kx16 bits for optimal resolution.	

Features	Remarks
Identification and Preview System Functional requirements: a) Capability of interfacing to HL7, Non-HL7, Proprietary, DICOM Work list or user defined Windows/DOS /Linux based interface protocols to HIS/RIS. b) Please specify whether you have tested interfacing with HL7-DICOM Bridge. c) Mechanism for retrieving Demographics of at least last 10 patients identified on a particular Identification Terminal. d) Customizable Graphic User Interface (GUI) in Identification station with facility of selecting DICOM print & Storage destination. e) Indication of Over Exposure on the preview module. f) Mechanism for User release from Preview terminal in case of Auto-routing Images to Pre-defined DICOM Destinations. g) Customizable Graphic User Interface (GUI) for Preview terminal. h) Solution for storing patient demographic data for multiple exams in RIS/non RIS environment. i) It should be possible to put a custom configurable data field in the demographic information of the patient linked with the image. Software System should include the following Software applications: Please list all the optional software(s) which are available with you for enhancing the workflow and service in the Digital Radiology environment for the following 1. Advanced Processing Software 2. Application Software 3. Connecting Software 4. Visual Output Software 5. Quality Monitoring Software The system should include the following SW applications as standard: Full Leg/Full spine image processing. Quality control software. Software, which enables to see in the preview terminal the deviation from normal exposure and with the details of the deviation on the CR workstation. Software masking of the collimation areas. Special attention should be placed on paediatric applications. Software for storing images on any DICOM 3 (or newer versions) compliant stations. Software for printing on any DICOM printer.	

Features	Remarks
CR Workstation System configuration requirements: a) Accept images from CR Reader without any loss of data b) Capable of Archiving & Printing selected image to a standard DICOM destination in DICOM 3.0 Format. c) Storing images in the local disk for pre-defined period. d) Mechanism for accepting New images when the local disk is full e) Should include 21″ antiglare flicker free TFT/LCD colour monitor f) Should include 21″ Monochrome antiglare flicker free Medical Grade TFT/LCD monitor with at least 2k X 2k resolution. g) CD/DVD Burner h) 80 GB or more on board storage System Functional requirements: a) Support DICOM Work list or user defined Windows/Dos based interface to HIS/RIS b) Mechanism for retrieving Demographics of at least last 10 patients identified on that Terminal. c) Customizable Graphic User Interface with facility of selecting DICOM print & storage destination. d) Indication of Over Exposure on the preview module. e) Mechanism for User release in case of Auto-routing Images to Pre-defined DICOM Destinations. Functional requirement for CR workstation: a) Built in routine for using predefined image processing parameters for image quality enhancement. b) Mechanism for storing the Patient image based on name, date, exam, etc. c) Capability of storing user defined image processing parameters. d) Capability of overwriting predefined image parameter with user-defined parameters & storing these two images separately. e) Correcting typographically in Patient Demographic module, in case the RIS connection was down and manually data entry was done. f) Capability of changing W/l, Flipping, Rotating, Zooming, Collimating Annotating incoming image. g) Auto-routing incoming image to predefined DICOM Store (SCP storage) or Print Destination (SCP Print Destination) h) Mechanism for printing Multiple Images in one film, with the possibility of slide and True Size printing i) Capability of storing to CD j) Systems should be able to converse with other DICOM systems - such as MR work station / CT workstation / DSA lab workstation.	

Features	Remarks
Dry Chemistry Imager System Configuration requirements: Print Images from CR Workstation **Dry Chemistry Imager with** **1.Resolution 16 bits/500 dpi or more with minimum 3 ports online for films.** **2.Support multiple films sizes one of which must be 17"x14"** **3. DICOM Ready (Attach conformance statement)".** Capable of handling mammography plates.	
Functional requirement for Laser Imager: a) Capable of Printing images in High quality b) Mechanism for printing images in 14 x 17,11X14 and 8 x 10 film sizes simultaneously. c) Mechanism for Printing Multiple Images in one film, with the possibility of slide printing.	
Laser Paper Printer	Optional
Provision for Distributed CR System should be present. Please quote separately for additional workstation image reader preview stations and image planes	Optional
Warranty/CMC: As per the Tender Document	

Please list all the Optional software's, which are available with you for enhancing the workflow and services in the Digital Radiology environment.
Quote separately for additional laser imagers.

SECTION-VII

TECHNICAL SPECIFICATIONS
GENERAL TECHNICAL SPECIFICATIONS

GENERAL POINTS:

1. Warranty:

   a) Two years Comprehensive Warranty as per Conditions of Contract of the TE document for complete equipment (including X ray tubes, Helium for MRI, Batteries for UPS, other vacuumatic parts wherever applicable) and Turnkey Work from the date of satisfactory installation, commissioning, trial run & handing over of equipment to Hospital/Institution/Medical College.
   b) 98% up time Warranty of complete equipment with extension of Warranty period by double the downtime period on 24 (hrs) X 7 (days) X 365 (days) basis.
   c) All software updates should be provided free of cost during Warranty period.

2. After Sales Service:

   After sales service centre should be available at the city of Hospital/Institution/Medical College on 24 (hrs) X 7 (days) X 365 (days) basis. Complaints should be attended properly, maximum within 8 hrs. The service should be provided directly by Tenderer/Indian Agent. Undertaking by the Principals that the spares for the equipment shall be available for at least 10 years from the date of supply.

3. Training:

   On Site training to Doctors/ Technicians/ staff is to be provided by Principal/ Indian Agents (if they have the requisite know-how) for operation and maintenance of the equipment to the satisfaction of the consignee.

4. Annual Comprehensive Maintenance Contract (CMC) of subject equipment with Turnkey:

   a) The cost of Comprehensive Maintenance Contract (CMC) which includes preventive maintenance including testing & calibration as per technical/ service /operational manual of the manufacturer, labour and spares, after satisfactory completion of Warranty period may be quoted for next 5 years on yearly basis for complete equipment (including X ray tubes, Helium for MRI, Batteries for UPS, other vacuumatic parts wherever applicable) and Turnkey (if any). The supplier shall visit each consignee site as recommended in the manufacturer's technical/ service /operational manual, but at least once in six months during the CMC period
   b) The cost of CMC may be quoted along with taxes applicable on the date of Tender Opening. The taxes to be paid extra, to be specifically stated. In the absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later.
   c) Cost of CMC will be added for Ranking/Evaluation purpose.
   d) The payment of CMC will be made on six monthly basis after satisfactory completion of said period, duly certified by end user on receipt of bank guarantee

for 2.5 % of the cost of the equipment as per Section XV valid till 2 months after expiry of entire CMC period.

e) There will be 98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period.
f) During CMC period, the supplier is required to visit at each consignee's site at least once in 6 months commencing from the date of the successful completion of warranty period for preventive maintenance of the goods.
g) All software updates should be provided free of cost during CMC.
h) Failure of the above [4. e) to 4. g)] by the supplier, may lead to the forfeiture of the Bank Guarantee for Annual CMC.
i) The payment of CMC will be made as stipulated in GCC Clause 21.

Turnkey:

Turnkey is indicated in the technical specification of the respective items, wherever required. The Tenderer shall examine the existing site where the equipment is to be installed, in consultation with HOD of Hospital/Institution/Medical College concerned. Turnkey details of each Hospital/Institution/Medical College are given at the end of Technical Specification. The Tenderers to quote prices indicating break-up of prices of the Machine and Turnkey Job of each Hospital/Institution/Medical College. The Turnkey costs may be quoted in Indian Rupee will be added for Ranking Purpose.

The taxes to be paid extra, to 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.

The Turnkey Work should completely comply with AERB requirement, if any.

Section – VIII
Quality Control Requirements

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

Tender Reference No.

Date of opening

Time

Name and address of the Tenderer:

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

01 Name of the manufacturer
- a. full postal address
- b. full address of the premises
- c. telegraphic address
- d. telex number
- e. telephone number
- f. fax number

02 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 Test certificate held
- a . type test
- b . BIS/ISO certification
- c . any other

08 Details of staff
- a. technical
- b skilled
- c unskilled

Signature and seal of the Tenderer

Section – IX
Qualification Criteria

01. The Tenderer must be a Manufacturer or its authorized Agent.
02. (a) The Manufacturer should have supplied and installed in last **Five** years from the date of Tender Opening, atleast 100% of the quoted quantity of the similar equipment meeting major specification parameters which is functoning satisfactorily. The foreign Manufacturer satisfying the above criteria should also have supplied and installed in last **Five** years from the date of Tender Opening, at least 50% of quoted quantity of similar model which is functoning satisfactorily any where outside the country of manufacture.
02. (b) The Tenderers quoting as authorized representative of the manufacturer meeting the above criteria 02 (a) should have supplied and installed in last **Five** years from the date of Tender Opening, atleast 50% of the quoted quantity of similar equipments which is functoning satisfactorily, any where in India of any manufacturer.

Note

1. In support of 2 (a) & 2 (b), the Tenderer shall furnish Performance statement in the enclosed Proforma 'A'.

   The manufacturer as well as the Tenderer/ Indian Agent shall furnish Satisfactory Performance Certificate in respect of above, duly translated in English and duly notarized in the country of origin, alongwith the tender.

2. The Tenderer 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 Tenderer shall also furnish details of Equipment and Quality Control in the enclosed Section VIII.

3. Notwithstanding anything stated above, the Purchaser reserves the right to assess the Tenderer's capability and capacity to perform the contract satisfactorily before deciding on award of Contract, should circumstances warrant such an assessment in the overall interest of the Purchaser.

4. The Purchaser reserves the right to ask for a free demonstration of the quoted equipment at a pre determined place acceptable to the purchaser for technical acceptability as per the tender specifications, before the opening of the Price Tender.

PROFORMA 'A'

PROFORMA FOR PERFORMANCE STATEMENT

(For the period of last five years)

Tender Reference No. : _____

Date of opening : _____

Time : _____

Name and address of the Tenderer : _____

Name and address of the manufacturer : _____

Order placed by (full address of Purchaser /Consignee)	Order number and date	Description and quantity of ordered goods and services	Value of order (Rs.)	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

Signature and seal of the Tenderer

**** The documentary proof will be a certificate 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**

Section – X
TENDER FORM

Date_____

To

Head (P&CD), HLL Lifecare Limited, Procurement and Consultancy Division, B-12, Sector -59, Noida -201301, Uttar Pradesh

Ref. Your TE document 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_____ *(Description of goods and services)* in conformity with your above referred document for the sum of _____ (total tender amount in figures and words), as shown in the price schedule(s), attached herewith and made part of this tender.

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.

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 Tenderers" 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 PRICE SCHEDULE

A) 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.)
				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	4 x 5(g)

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 shall be quoted separately as per Section – XI – Price Schedule C

Name_____

Business Address_____

Place: _____ **Signature of Tenderer**_____

Date: _____ **Seal of the Tenderer**_____

SECTION – XI PRICE SCHEDULE

B) PRICE SCHEDULE FOR GOODS TO BE IMPORTED FROM ABROAD

1	2	3	4	5					6
Schedule	Brief Description of Goods	Country of Origin	Quantity (Nos.)	Price per unit (Currency)					Total price on CIP Named Port of Destination + Insurance (local transportation and storage)
				FOB price at port/ airport of Lading (a)	Carriage & Insurance (port of loading to port of entry) and other Incidental costs** (b)	Incidental Services (including Installation & Commissioning, Supervision, Demonstration and Training) at the Consignee's site** (c)	Extended Insurance (local transportation and storage) from port of entry to the consignee site for a period including 3 months beyond date of delivery** (d)	Unit Price on CIP Named Port of Destination + Extended Insurance (local transportation and storage) (e) = a+b+c+d	4X 5 (e)

** To be paid in Indian Currency (Rs.)

Total Tender price in foreign currency: _____

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 shall be quoted separately as per Section – XI – Price Schedule C
3. The Tenderer will be fully responsible for the safe arrival of the goods at the named port of entry in good condition as per terms of CIP as per INCOTERMS, if applicable

Indian Agent:

Indian Agency Commission - ___% of FOB

Signature of Tenderer_____

Name_____

Business Address_____

Place: _____ **Signature of Tenderer**_____

Date: _____ **Seal of the Tenderer**_____

SECTION – XI PRICE SCHEDULE

C) PRICE SCHEDULE FOR ANNUAL COMPREHENSIVE MAINTENANCE CONTRACT AFTER WARRANTY PERIOD

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

*** After completion of Warranty period**

NOTE:-

1. In case of discrepancy between unit price and total prices, THE UNIT PRICE shall prevail.
2. The cost of Comprehensive Maintenance Contract (CMC) which includes preventive maintenance including testing & calibration as per technical/ service /operational manual, labour and spares, after satisfactory completion of Warranty period may be quoted for next 5 years on yearly basis for complete equipment and Turnkey (if any).
3. The cost of CMC may be quoted along with taxes applicable on the date of Tender Opening. The taxes to be paid extra, to be specifically stated. In the absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later.
4. Cost of CMC will be added for Ranking/Evaluation purpose.
5. The payment of CMC will be made as per clause GCC clause 21.1 (D).
6. The uptime warranty will be 98 % on 24 (hrs) X 7 (days) X 365 (days) basis or as stated in Technical Specification of the TE document.
7. All software updates should be provided free of cost during CMC period.
8. The stipulations in Technical Specification will supersede above provisions
9. The supplier shall keep sufficient stock of spares required during Annual Comprehensive Maintenance Contract period. In case the spares are required to be imported, it would be the responsibility of the supplier to import and get them custom cleared and pay all necessary duties.

Name_____
Business Address_____
Signature of Tenderer_____
Seal of the Tenderer_____

Place: _____
Date: _____

SECTION – XI PRICE SCHEDULE
D) PRICE SCHEDULE FOR TURNKEY

Schedule No.	BRIEF TURNKEY DESCRIPTION OF GOODS	CONSIGNEE CODE	Turnkey price

Note: -

1. The cost of Turnkey as per Technical Specification (Section VII) may be quoted on lump sum along with taxes applicable on the date of Tender Opening. The taxes to be paid extra, to be specifically stated. In the absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later.
2. Cost of Turnkey will be added for Ranking/Evaluation purpose.
3. The payment of Turnkey will be made as per clause GCC clause 21.1 (c).
4. The stipulations in Technical Specification will supersede above provisions

Name_____
Business Address_____
Signature of Tenderer_____

Place: _____

Date: _____ **Seal of the Tenderer**_____

SECTION – XII
QUESTIONNAIRE

Fill up the Section XX – Check List for Tenderers and enclose with the Tender

1. The tenderer should furnish specific answers to all the questions/issues mentioned in the Checklist. In case a question/issue does not apply to a tenderer, the same should be answered with the remark "not applicable".

2. Wherever necessary and applicable, the tenderer shall enclose certified copy as documentary proof/ evidence to substantiate the corresponding statement.

3. In case a tenderer furnishes a wrong or evasive answer against any of the question/issues mentioned in the Checklist, its tender will be liable to be ignored.

SECTION – XIII
BANK GUARANTEE FORM FOR EMD

Whereas _____ (hereinafter called the "Tenderer") has submitted its quotation dated _____ for the supply of _____ (hereinafter called the "tender") against the purchaser'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 "Purchaser) in the sum of _____ for which payment will and truly to be made to the said Purchaser, 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 Tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.

(2) If the Tenderer having been notified of the acceptance of his tender by the Purchaser 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 Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser 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 of forty-five days after the period of tender validity 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
MANUFACTURER'S AUTHORISATION FORM

To

Head (P&CD), HLL Lifecare Limited, Procurement and Consultancy Division, B-12, Sector -59, Noida -201301, Uttar 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 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.

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 – XV

BANK GUARANTEE FORM FOR PERFORMANCE SECURITY/ CMC SECURITY

To
Head of Hospital/Institute/Medical College

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 30 (thirty) 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 – XVI
CONTRACT FORM - A

CONTRACT FORM FOR SUPPLY, INSTALLATION, COMMISSIONING, HANDING OVER, TRIAL RUN, TRAINING OF OPERATORS & WARRANTY OF GOODS

(Address of the Purchaser's/Consignee's
office issuing the contract)

Contract No_____ dated_____

This is in continuation to this office's Notification of Award No_____ dated _____

1. Name & address of the Supplier: _____
2. Purchaser's TE document No_____ dated_____ and subsequent Amendment No_____, dated_____ (if any), issued by the purchaser
3. Supplier's Tender No_____ dated_____ and subsequent communication(s) No_____ dated _____ (if any), exchanged between the supplier and the purchaser 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) Quality Control Requirements;
   (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) Purchaser'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 Tenderers' of the Purchaser'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 purchaser'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 Purchaser's/Consignee'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
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)**

In continuation to the above referred contract

6. The Contract of Annual Comprehensive Maintenance is hereby concluded as under: -

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

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 5 years as contained in the above referred contract on yearly basis for complete equipment (including X ray tubes, Helium for MRI, Batteries for UPS, other vacuumatic parts, _____ & _____) and Turnkey (if any).

d) There will be 98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, 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 6 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 the 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 Purchaser/Consignee.

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 consignee i.e. Hospital/ Institute /Medical College's authorised official)

_____

(Signature, name and address of Hospital/Institute/Medical College'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 – XVII
CONSIGNEE RECEIPT CERTIFICATE
(To be given by consignee's authorized representative)

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 :_____

SECTION – XVIII

Proforma of Final Acceptance Certificate by the Consignee

No_____

Date_____

To

M/s _____

_____

_____

Subject: Certificate of commissioning of equipment/plant.

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:_____

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 No.

The proving test has been done to our entire satisfaction and operators have been trained to operate the equipment(s)/plant(s).

The supplier has fulfilled its contractual obligations satisfactorily ## or

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

He has not adhered to the time schedule specified in the contract in dispatching

the documents/drawings pursuant to 'Technical Specifications'.
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 Purchaser/Consignee in respect of the installation of the equipment(s)/plant(s).
The supplier as specified in the contract has not done training of personnel.

The extent of delay for each of the activities to be performed by the supplier in terms of the contract is
The amount of recovery on account of non-supply of accessories and spares is given under Para no.02.
The amount of recovery on account of failure of the supplier to meet his contractual obligations is_____ (here indicate the amount).
Signature
Name
Designation with stamp

Explanatory notes for filling up the certificate:
He has adhered to the time schedule specified in the contract in dispatching the documents/drawings pursuant to 'Technical Specification'.
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 Purchaser/Consignee in respect of the installation of the equipment(s)/plant(s).
Training of personnel has been done by the supplier as specified in the contract
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.

SECTION – XIX
ANNEXURES

Annexure 1

DETAILS OF SHIPPING ARRANGEMENT FOR LINER CARGOES IN RESPECT OF C & F/CIF/TURNKEY/F.O.R CONTRACTS FOR IMPORTS

1. (a) SHIPMENT FROM PORTS OF U.K INCLUDING NORTHERN IRELAND (ALSO EIRE), FROM THE NORTH CONTINENT OF EUROPE (GERMANY, HOLLAND, BELGIUM, FRANCE, NORWAY, SWEDEN, DENMARK, FINLAND AND PORTS ON THE CONTINENTAL SEABOARD OF MEDITERRANIAN (I.E. FRENCH WESTERN ITALIAN PORTS), TO PORTS IN INDIA.

The Seller should arrange shipment of the goods by vessels belonging to the member lines of the India-Pakistan-Bangladesh Conference. If the Seller finds that the space on the 'Conference Lines' vessels is not available for any specific shipment, he should take up with India-Pakistan-Bangladesh Conference. Conferity House, East Grinstead, Sussex (UK), for providing shipping space and also inform the Shipping Co-ordination Officer, Ministry of Surface Transport, New Delhi, (Cable: TRANSCHART, NEW DELHI, Telex: VAHAN IN – 031 – 61157, 61158, 61159)

The Seller should arrange shipment through the Government of India's Forwarding Agents, M/s Schenker & Co., 2000-Hamburg (Cable: SCHENKER CO., HAMBURG) OR obtain a certificate from them to the effect that shipment has been arranged in accordance with instructions of the Ministry of Surface Transport, (TRANSCHART), New Delhi.

(b) SHIPMENT FORM PORTS OF U.K. INCLUDING NORTHERN

Goods under this contract would be shipped by the national shipping companies of the Contracting Parties operating bilateral shipping service and vessels under the flag of third countries in accordance with the Agreement between the Government of German Democratic Republic and the Government of the Republic of India in the Field of Merchant Shipping signed on 9.1.1979, as amended up-to-date.

(c) ISHIPMENT FROM ADRIATIC PORTS OF EASTERN ITALY AND YUGOSLAVIA

The seller should arrange shipment of the goods by vessels belonging to the following Indian member lines;

1. The Shipping Purchaser of India Ltd.
2. The Scindia Steam Navigation Co., Ltd
3. India Steamship Co., Ltd

For the purpose of ascertaining the availability of suitable Indian vessels and granting dispensation in the event of their non-availability, the Seller should give

adequate notice about the readiness of each consignment from time to time at least six weeks in advance of the required position to M/s Schenker & Co. 2000 HAMBURG (Cable: SCHENKER CO., HAMBURG) and also endorse a copy thereof to the Shipping Co-ordination Officer, Ministry of Surface Transport, New Delhi, (Cable: TRANSCHART, NEW DELHI, Telex: VAHAN IN – 031 – 61157, 61158, 61159)

The seller should arrange shipment through the Government of India's Forwarding Agents M/s Schenker & Co. 2000 HAMBURG (Cable: SCHENKER CO., HAMBURG) or obtain certificate from them to the effect that shipment has been arranged in accordance with the instructions of the Ministry of Surface Transport, (TRANSCHART), New Delhi.

(d) SHIPMENT FROM POLAND & CZECHOSLOVAKIA

(i) IMPORTS FROM POLAND

Shipment under this contract would be made by the National flag lines of the two parties and vessels of the third flag conference lines, in accordance with the agreement between the Govt. of the Republic of India and the Govt. of the Polish People's Republic regarding Shipping Co-operation dated 27.6.1960 as amended up-to-date.

(ii) IMPORTS FROM CZECHOSLOVAKIA

Goods under this contract would be signed by the National flag lines of the two parties and vessels of the third flag conference lines, in accordance with the Agreement Co-operation in shipping between India and Czechoslovakia signed on 3.11.1978 and ratified on 19.12.1979, as amended up-to-date.

Shipping arrangement should be made by the Sellers in consultation with Resident Representative of the Indian Shipping Lines in Gdynia, Co., Morska Agencja W. Gdyniul, Pulaskiego 8, P.O. Box 246, Gdynia (Poland) – Telex : MG PL. 054301, Tel.: 207621, to whom details regarding contract number, nature of cargo , quantity, port of lading, discharging, name of Government consignee, expected date of readiness of each consignment etc. should be furnish at least six weeks in advance of the required position, with a copy thereof endorsed to the Shipping Co-ordination Officer, Ministry of Surface Transport, (Chartering Wing), New Delhi, (Cable: TRANSCHART, NEW DELHI, Telex: VAHAN IN – 031 – 61157, 61158, 61159)

(e) SHIPMENT FROM U.S.S.R

Shipment under this contract should be made in accordance with the agreement between the Government of the Republic of India and the Government of U.S.S.R on Merchant Shipping 1976, as amended up-to-date, by vessels of Indo-Soviet shipping Service.

(f) SHIPMENT FROM JAPAN

The shipment of goods should be made of India vessels to the maximum extent possible subject to the minimum of 50%.

The Seller should arrange shipment of the goods in consultation with the Embassy of India in Japan, Tokyo to whom details regarding contract number, nature of cargo, quantity, port of loading/discharge, name of Govt. consignee, expected date of readiness of each consignment etc. should be furnished at least six weeks in advance of the required position.

Note: The copies of such contracts are to be endorsed both to the Attached (commercial) embassy of India in Japan, Tokyo, and the shipping Co-ordination Officer, Ministry of Surface Transport, New Delhi.

(g) SHIPMENT FROM AUSTRALIA, ALGERIA, BULGARIA, ROMANIA, EGYPY

The Seller shall arrange shipment of the goods by Indian flag vessels to the maximum extent possible subject to a minimum of 50 %. For the purpose of ascertaining the availability of suitable Indian vessels, the seller shall give adequate notice of not less than six weeks about the readiness of each consignment to the Shipping Purchaser of India Ltd., SHIPPING HOUSE, 245, Madame Cama Road, Bombay – 400 021 (CABLE: SHIPINDIA BOMBAY) and also endorse a copy thereof to the Shipping Co-ordination Officer, Ministry of Surface Transport, New Delhi, (Cable: TRANSCHART, NEW DELHI, Telex: VAHAN IN – 031 – 61157, 61158, 61159)

(h) SHIPMENT FROM PAKISTAN

The shipment of cargoes should be made by Indian vessels to the maximum extent possible subject to a minimum of 50 %.

Shipment arrangement should be made by the sellers in consultation with M/s Mogul Line Ltd., 16-Bank Street, Fort, Bombay – 400023 (Cable: MOGUL BOMBAY: Telex: 011 – 4049 MOGUL), to whom, details regarding contract number, nature of cargo, quantity, port of lading discharging, name of government consignee, expected date of readiness of each consignment etc. should be furnish at least six weeks in advance of the required position, with a copy thereof endorsed to the Shipping Co-ordination Officer, Ministry of Surface Transport, New Delhi, (Cable: TRANSCHART, NEW DELHI, Telex: VAHAN IN – 031 – 61157, 61158, 61159)

(i) SHIPMENT FROM U.S ATLANTIC & GULF PORTS

The Seller should arrange shipment of the goods by vessels belonging to the member lines of the India – Pakistan – Bangladesh – Ceylon and Burma Outward Freight Conference. If the Seller finds that the space of the 'Conference Lines' vessels is not available for any specific shipment he should take up with India – Pakistan-Bangladesh – Ceylon and Burma Outward Freight Conference, 19, Rector Street, New York, N.Y. 10006 USA, for providing shipping space and also inform the

Shipping Co-ordination Officer, Ministry of Surface Transport, New Delhi, (Cable: TRANSCHART, NEW DELHI, Telex: VAHAN IN – 031 – 61157, 61158, 61159)

(j) SHIPMENT FROM ST. LAWRENCE AN EASTERN CANADIAN PORTS

The Seller should arrange shipment of the goods by vessels belonging to the following shipping lines;

1. The shipping Purchaser of India Ltd.
2. The Scindia Steam Navigation Co., Ltd

If the Seller finds that the space in the vessels of these Lines is not available for any particular consignments, he should inform the Shipping Co-ordination Officer, Ministry of Surface Transport, New Delhi, (Cable: TRANSCHART, NEW DELHI, Telex: VAHAN IN – 031 – 61157, 61158, 61159) immediately so that dispensation from the shipping lines concerned to use alternative lifting may be sought.

(k) SHIPMENT FROM WEST COAST PORTS OF U.S.S CANADA AND OTHER AREAS NOT SPECIFICALLY MENTIONED ABOVE

The Seller should arrange shipment of the goods by Indian vessels to the maximum extent possible subject to a minimum of 50 %. For the purpose of ascertaining the availability of suitable Indian vessels and granting dispensation in the event of their non-availability, the Seller should furnish the details regarding contract number, nature of cargo, quantity, port of lading, discharging, name of government consignee, expected date of readiness of each consignment etc. to the Shipping Co-ordination Officer, Ministry of Surface Transport, New Delhi, (Cable: TRANSCHART, NEW DELHI, Telex: VAHAN IN – 031 – 61157, 61158, 61159) at least six weeks in advance of the required position.

2. BILLS OF LADING

(i) C.I.F./C&F/TURNKEY SHIPMENTS

The Bills of lading should be drawn to indicate Shipper and 'Consignee' as under:

SHIPPER: The C.I.F (C&F)/TURNKEY SUPPLIERS concerned.

CONSIGNEE: As per consignee's particulars in the contract (The name an address of the 'Port Consignee' and 'Ultimate' both should be indicated).

(ii) F.O.R SHIPMENTS

The Bills of lading should be drawn to indicate shipper Consignee as under:

SHIPPER: The F.O.R suppliers Concerned

CONSIGNEE: Supplier's Indian Agent on order

Note:

1. Moreover the name of the 'Purchaser' and 'Ultimate' Consignee should appear in the body of the Bills of Lading as the 'Notify' or as a remark.
2. Two non-negotiable copies of the Bills of Lading indicating the freight amount and discount, if any allowed, should be forwarded to The Shipping Co-ordination Officer, Ministry of surface Transport (Chartering Wing), New Delhi after the shipment of each consignment is effected.
3. The seller should avoid the use of over-aged vessels for the shipment of the goods under the contract and if so used the cost of additional. Insurance, if any, shall be borne by the seller.

SECTION – XX
CHECKLIST
Name of Tenderer:
Name of Manufacturer:

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 schedules?			
b.	In case EMD is furnished in the form of Bank Guarantee, has it been furnished as per Section XIII?			
c.	In case Bank Guarantee is furnished, have you kept its validity of 165 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.	Are you a SSI unit, if yes have you enclosed certificate of registration issued by Directorate of Industries/NSIC			
4. 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?			

Sl No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
5. a.	Have you submitted satisfactory performance certificate as per the Proforma for performance statement in Sec. IX of TE document in respect of all orders?			
b.	Have you submitted copy of the order(s) and end user certificate?			
6.	Have you submitted manufacturer's authorization as per Section XIV?			
7.	Have you submitted prices of goods, turnkey (if any), CMC etc. in the Price Schedule as per Section XI?			
8.	Have you kept validity of 120 days from the Techno Commercial Tender Opening date as per the TE document?			
9. a.	In case of Indian Tenderer, have you furnished Income Tax Account No. as allotted by the Income Tax Department of Government of India?			
b.	In case of Foreign Tenderer, have you furnished Income Tax Account No. of your Indian Agent as allotted by the Income Tax Department of Government of India?			
10.	Have you intimated the name an full address of your Banker (s) along with your Account Number			
11.	Have you fully accepted payment terms as per TE document?			
12.	Have you fully accepted delivery period as per TE document?			

Sl No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
13.	Have you submitted the certificate of incorporation?			
14.	Have you accepted the warranty as per TE document?			
15.	Have you accepted terms and conditions of TE document?			
16.	Have you furnished documents establishing your eligibility & qualification criteria as per TE documents?			
17	Have you furnished Annual Report (Balance Sheet and Profit & Loss Account) for last three years prior to the date of Tender opening?			

N.B.

1. All pages of the Tender should be page numbered and indexed.
2. The Tenderer 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.

3. 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 Tenderer)
For and on behalf of

(Name, address and stamp of the tendering firm)

Section – XXI
Consignee List

Consignee Code	Medical Institutions	Contact Address.	AirPort	Sea Port
BJMC	Civil Hospital / BJ Medical College	The Medical Superintendent, Civil Hospital / BJ Medical College, Ahmedabad-380016 Gujarat Ph: 079-22681024 079-22680074	Ahmadabad	Kandla
JMC	Govt. Medical College, Jammu	The Principal, Govt. Medical College, Bakshinagar Jammu – 180006 Ph: 0191-2584247	Delhi	Kandla
TMC	Medical College Thiruvananthapuram	The Principal, Medical College Thiruvananthapuram, Medical College P.O Thiruvananthapuram - 695011 Kerala Ph: 0471-2443095	Trivandrum	Cochin
RIMS	Rajendra Institute of Medical Sciences	The Director, Rajendra Institute of Medical Sciences Bariatu, Ranchi – 834009 Jharkhand Ph - +91-651-2541533	Kolkata	Kolkata
SMC	Govt. Medical College, Srinagar	The Principal / Dean, Govt. Medical College Srinagar, Karan Nagar Srinagar – 190010 Ph: 0194-2456824 Ph: 0194-2453115	Delhi	Kandla

Consignee Code	Medical Institutions	Contact Address.	AirPort	Sea Port
SGPGIMS	Sanjay Gandhi PGI	The Director, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Raibareli Road, Lucknow- 226 014, UP 0522-2668004-008, 700, 800, 900	Delhi	Kolkata
SVIMS	Sri Venkateshwara Institute of Medical Sciences	The Dean, Sri Venkateshwara Institute of Medical Sciences, Tirupati-517507 Andhra Pradesh	Chennai	Chennai
KMC	Medical College & Hospitals, Kolkata	The Principal, Medical College & Hospitals, 88, College Street, Kolkata – 700 073, Fax: 033 – 22413929	Kolkata	Kolkata
GMC	Grant Medical College & Sir J.J. Group of Hospitals	The Dean, Grant Medical College & Sir J.J. Group of Hospitals, Byculla, Mumbai 400 008 Ph: 022 23731144	Mumbai	Mumbai
BMC	Bangalore Medical College and Research Institute	The Director cum Dean, Bangalore Medical College and Research Institute, Fort, Near KR Road Bangalore – 560002 Karnataka Ph: 080-26704342	Bengaluru	Chennai
VIMS	Institute of Medical Sciences, BHU	The Director Institute of Medical Sciences, BHU Varanasi -221005 Uttar Pradesh Ph: 0542-23075000	Delhi	Kolkata

NB: The consignee will ensure timely issue of NMIC, CDEC, Octroi Exemption Certificates, Road Permits & Entry Tax Exemption Certificates, wherever applicable, to the suppliers.