GLOBAL TENDER ENQUIRY DOCUMENT

FOR PURCHASE OF
MEDICAL EQUIPMENT
FOR INSTITUTIONS GETTING UPGRADED
UNDER PMSSY PHASE II

On behalf of

GOVT. OF INDIA

MINISTRY OF HEALTH & FAMILY WELFARE

HLL/PCD/PMSSY-II/05/14-15

BY

HLL Lifecare Limited

(A GOVERNMENT OF INDIA ENTERPRISE)
Procurement & Consultancy Services Division
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INDEX

SECTION I

NOTICE INVITING TENDERS (NIT)

Tender Enquiry No.: HLL/PCD/PMSSY-II/05/14-15 **Dated 20.06.2014**

1. Procurement & Consultancy Services Division of HLL Lifecare Limited, for and on behalf of Govt. of India, Ministry of Health & Family Welfare, invites sealed tenders, from eligible and qualified tenderers for supply of Medical Equipment to the institutions i.e. Government Medical College - Amritsar, Jawahar Lal Nehru Medical College (Aligarh Muslim University) –Aligarh , Pt.B.D.Sharma Post Graduate Institute of Medical Sciences,Rohtak and Dr. Rajendra Prasad Government Medical College - Tanda which are getting upgraded under Pradhan Mantri Swasthya Suraksha Yojna (PMSSY) Phase II:

Sl. no.	Short description of items	Total Qty.	EMD (Rs.)
1	MRI 3.0 T	1	2,400,000
2	CT scan-64 rows/128 slice	2	2,600,000
3	1000 mA Digital Radiofluroscopy Flat Panel	1	400,000
4	Digital Radiography 1000mA	2	6,80,000
5	High end Colour Doppler system	1	100,000
6	Anaesthesia M/c with ventilator (High end)	28	1,400,000
7	Ventilators high end	12	360,000
8	Central station for ICU with 10 Bed Side Monitoring System (1+10)	2	400,000
9	Central Station for ICCU with 8 Bed Side Monitoring system (1+8)	1	160,000
10	**Multiparameter Monitor**/Patient monitor - 5 Parameter/3 Parameter/Vital Sign Monitor	98	686,000
11	Defibrilator	14	84,000
12	Patient bed - ICU bed (Advance)	18	90,000
13	High definition laparoscoy system with accessories	3	450,000
14	Arthroscope	1	60,000
15	Ortho Drill - Battery operated	3	90,000
16	Harmonic Scalpel	3	132,000
17	Operating Table - Electro hydraulic	34	1,020,000
18	ENT Operating Microscope & Video camera unit	2	180,000
19	Heart Lung Machine (with five pump console with one pump giving pulsatile flow with battery backup of all pump heads)	4	640,000
20	Automated Immunochemistry analyzer/ Fully Automated Immunostainer	1	80,000
21	Immunophenotyping Machine/ Flowcytometer	1	70,000
22	Automated Karyotyping and Fish software	1	80,000
23	Complete Cath Lab	2	14,00,000
24	Colour Doppler -Portable	1	50,000
25	CR System - High End Computed Radiography Unit	2	100,000
26	Electric Cautery Electro Surgical Unit	35	840,000
27	C- Arm	2	48,000

2. Tender No.: HLL/PCD/PMSSY-II/05/14-15

Sl. No.	Description	Schedule
i.	Dates of sale of tender enquiry documents	20.06.2014 to 27.07.2014, 1000 hrs to 1600 hrs IST
ii.	Place of sale of Tender Enquiry Documents	HLL Lifecare Limited, Procurement & Consultancy Services Division, B-14 A, Sector-62, Noida-201307
iii.	Cost of the Tender Enquiry Document	Rs. 5,000/-
iv.	Pre Tender Meeting Date & Time	27.06.2014, 1100 hrs IST
v.	Pre Tender Meeting Venue	Same as 2 (ii)
vi.	Closing date & time for receipt of Tender	28.07.2014, 1400 hrs IST
vii.	Time and date of opening of Techno – Commercial tenders	28.07.2014, 1430 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. 5,000/- 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.lifecarehll.com or www.eprocure.gov.in/cppp 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-14 A, Sector-62, Noida-201307, 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.

Head (P&CD)
HLL Lifecare Limited

SECTION - II

GENERAL INSTRUCTIONS TO TENDERERS (GIT)
CONTENTS

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 Ministry of Health & Family welfare Govt of India.
(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) "TE 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. **<u>While giving authorization to agent , to quote on their behalf, manufacturer has to give the reasons for not quoting directly against this tender.</u>**

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) Price Tender:

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

Note:
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. Individuals signing the tender or other documents connected with a contract must specify whether he signs as:
i. A 'Sole Proprietor' of the firm or constituted attorney of such Sole Proprietor.
ii. A partner of the firm ,if it be a partnership , in which case he must have authority to quote & to refer to arbitration dispute concerning the business of the partnership either by virtue of the partnership agreement or a power of attorney;
iii. Constituted attorney of the firm if it is a company.

Note:
1. In case of (ii) above, a copy of the partnership agreement or general power of attorney, in either ,case, attested by a Notary Public should be furnished, or affidavit on stamped paper of all the partners admitting execution of the partnership agreement or the general power of attorney should be furnished.
2. In case of the partnership firms, where no authority to refer disputes concerning the business of the partnership has been conferred on any partner, the tender and all other related documents must be signed by every partner of the firm.
3. A person signing the tender form or any documents forming part of the contract on behalf of another shall be deemed to warrantee that he has authority to bind such other persons and if, on enquiry, it appears that the persons so signing had no authority to do so, the purchaser may, without prejudice to other civil and criminal remedies, cancel the contract and hold the signatory liable for all cost and damages

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), a s 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) The amount of freight and insurance

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. The purchaser should issue the certificate to the supplier within 21 days from the date of receipt of request from the supplier.

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.
d) A copy of agreement between the Agent & their principal detailing the terms & conditions as well as services and after sales services as above to be rendered by the agent and the precise relationship between them and their mutual interest in the business as laid out in section VII (Technical specifications).
e) Principal/ manufacturer's original proforma invoice with the price bid

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.

16.3 If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product. In a tender, either the Indian Agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender.

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.

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 A (i) 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. 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 and the same should be submitted along with the bid.

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, who may not agree to extend its tender validity after the expiry of the original validity period the EMD furnished by them shall not be forfeited.

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 two copies of its tender marking them as "Original" and "Duplicate". Duplicate tenders may contain all pages including Technical Literature/Catalogues as per in Original tenders. Tenders are requested to submit tenders duly page numbered and in a binding form. **Tenders submitted in loose sheets will not be accepted.**

21.3 The original and duplicate 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 duplicate copy of the tender in separate envelopes, duly marking the same as "Original", "Duplicate", 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-14 A, Sector-62, Noida-201 307, Uttar Pradesh**. In case of bulky tender, which cannot 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-14 A, Sector-62, Noida-201 307, 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. 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 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 Deleted

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 rejected.

27.5 The following are some of the important aspects, for which a tender shall be declared non-responsive during the evaluation and will be ignored;

(i) Deleted

(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 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.
(vii) Deleted
(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.
(xiii) Tenderer has not agreed for the delivery terms and delivery schedule.

28. Minor Infirmity/Irregularity/Non-Conformity

28.1 If during the evaluation, the purchaser find any minor informality and/or irregularity and/or non-conformity in a tender, , the purchaser will convey its observation on such 'minor' issues to the tenderer by registered/speed post/courier/e-mail/fax 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. **"Net Present value (NPV) of the Comprehensive Annual Maintenance charges (CMC) quoted for 5 years after the warranty period shall be added to the bid price for evaluation and will be calculated after discounting the quoted price by a discounting factor of 10% per annum."**

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

35.1 Further to GIT Clause 34 above, the 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, 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.

i. In exercise of powers conferred in Section 11 of the Micro, Small and Medium Enterprises Development (MSMED) Act 2006, the Government has notified a new Public Procurement Policy for Micro & Small Enterprises effective from 1st April 2012. The policy mandates that 20% of procurement of annual requirement of goods and services by all Central Ministries / Public Sector Undertakings will be from the micro and small enterprises. The Government has also earmarked a sub-target of 4% procurement of goods & services from MSEs owned by SC/ST entrepreneurs out of above said 20% quantity.

ii. In accordance with the above said notification, the participating Micro and Small

Enterprises (MSEs) in a tender, quoting price within the band of L 1+15% would also be allowed to supply a portion of the requirement by bringing down their price to the L 1 price, in a situation where L 1 price is from someone other than an MSE. Such MSEs would be allowed to supply up to 20% of the total tendered value. In case there are more than one such eligible MSE, the 20% supply will be shared equally. Out of 20% of the quantity earmarked for supply from MSEs, 4% quantity is earmarked for procurement from MSEs owned by SC/ST entrepreneurs. However, in the event of failure of such MSEs to participate in the tender process or meet the tender requirements and the L 1 price, the 4% quantity earmarked for MSEs owned by SC/ST entrepreneurs will be met from other participating MSEs.

iii. The MSEs fulfilling the prescribed eligibility criteria and participating in the tender shall enclose with their tender a copy of their valid registration certificate with District Industries Centres or Khadi and Village Industries Commission or Khadi and Village Industries Board or Coir Board or National Small Industries Corporation or any other body specified by Ministry of Micro and Small enterprises in support of their being an MSE, failing which their tender will be liable to be ignored.

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.

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 reserve 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	25
B	8 to 10	TE documents	No Change	25
C	11 to 21	Preparation of Tenders	No Change	25
D	22 to24	Submission of Tenders	No Change	25
E	25	Tender Opening	No Change	25
F	26 to 37	Scrutiny and Evaluation of Tenders	No Change	25
G	38 to 45	Award of Contract	No Change	25

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

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, trademarks 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 fifteen (15) 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 66 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:

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 without 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 fifteen (15) days of issue of the amendment, furnish the corresponding amendment to the Performance Security (as necessary), rendering the same valid in all respects in terms of the contract, as amended.

5.5 The 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 and lodging will be borne by the purchaser and/or its nominated representative(s) for the first visit. In case the goods are rejected in the first instance and the supplier requests for re-inspection, and if same is accepted by purchaser/consignee/PSA/PA, all subsequent inspections shall be at the cost of the supplier. The expense will be to and fro Economy Airfare, Local Conveyance, Boarding and Lodging of the inspection team for the inspection period."

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.

"On rejection, the supplier shall remove such stores within 14 days of the date of intimation of such rejection from the consignee's premises. If such goods are not removed by the supplier within the period mentioned above, the purchaser/consignee may remove the rejected stores and either return the same to the supplier at his risk and cost by such mode of transport as purchaser/consignee may decide or dispose of such goods at the suppliers risk to recover any expense incurred in connection with such disposals and also the cost of the rejected stores if already paid for."

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, Bereau Veritas, TUV 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 and as per the delivery period specified in the schedule of requirement. Please note that the time shall be the essence of 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 for an amount equal to 110% of the value of the goods from ware house to ware house (consignee site) on all risk basis . The insurance cover shall be obtained by the Supplier and should be valid till 3 months after the receipt of goods by the Consignee.

ii) in case of supply of 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 for an amount equal to 110% of the overall expenditure to be incurred by the purchaser from ware house to ware house (consignee site) on all risk basis.

If the equipment is not commissioned and handed over to the consignee within 3 months, the insurance will have to be 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 consumables and spares for the goods so that the same are used during warranty and CMC period.

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 / courier (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, BEAUREU VERITAS, TUV 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, manufacturing or workmanship or from any act or omission of the supplier that may develop under normal use of the supplied goods under the conditions prevailing in India.

15.2 The **warranty** shall remain valid for the period as mentioned in the list of requirement/ General Technical specification, after the goods or any portion thereof as the case may be, have been delivered, installed and commissioned at the final destination.

a. No conditional warranty will be acceptable.
b. Warranty as well as Comprehensive Maintenance contract will be inclusive of all accessories and Turnkey work and it will also cover the following wherever applicable:-
   - Any kind of motor.

- Plastic & Glass Parts against any manufacturing defects.
- All kind of sensors.
- All kind of coils, probes and transducers.
- Printers and imagers including laser and thermal printers with all parts.
- UPS including the replacement of batteries.
- Air-conditioners

c. Replacement and repair will be under taken for the defective goods.
d. Proper marking has to be made for all spares for identification like printing of installation and repair dates.

15.3 In case of any claim arising out of this warranty, the 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 till the completion of the original warranty period of the main equipment.

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. FAC need to be issued by the designated consignee after installation, commissioning, testing and one to two weeks of successful trail run of the equipment.

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, BEAURU VARITUS and TUV prior to despatch.

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. FAC need to be issued by the designated consignee after installation, commissioning, testing and one to two weeks of successful trail run of the equipment.

c) Payment of Indigenous Goods :

Payment of indigenous goods will be paid as per the applicable payment terms i.e. 75% on delivery and 25% on acceptance. Delivery of the indigenous goods should be in line with the imported equipment.

d) 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 final installation, commission and acceptance of equipment by the consignee.

e) 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.

C) Payment of Turnkey, if any:

Turnkey payment will be made as 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.

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 Purchaser. 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. Delivery

22.1 The supplier shall deliver 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. The time for and the date of delivery of the goods stipulated in the schedule shall be deemed to be of the essence of the contract and the delivery must be completed not later than the date (s) as specified 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.

22.6 Passing of Property:

22.6.1 The property in the goods shall not pass to the purchaser unless and until the goods have been delivered to the consignee in accordance with the conditions of the contract.

22.6.2 Where there is a contract for sale of specific goods and the supplier is bound to do something to the goods for the purpose of putting them into a deliverable state the property does not pass until such thing is done.

22.6.3 Unless otherwise agreed, the goods remain at the supplier's risk until the property therein is transferred to the purchaser.

23. Liquidated damages

23.1 Subject to GCC clause 26, if the supplier fails to deliver or install /commission 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, installation, commissioning 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, 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 .

30.4 Jurisdiction of the court will be from the place where the tender enquiry document 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 Withholding and Lien in respect of sums claimed

Whenever any claim for payment arises under the contract against the supplier the purchaser shall be entitled to withhold and also have a lien to retain such sum from the security deposit or sum of money arising out of under any other contract made by the supplier with the purchaser, pending finalization or adjudication of any such claim.

It is an agreed term of the contract that the sum of money so withheld or retained under the lien referred to above ,by the purchaser, will be kept withheld or retained till the claim arising about of or under the contract is determined by the Arbitrator or by the competent court as the case may be ,and the supplier will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention.

33. General/ Miscellaneous Clauses

33.1 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.

33.2 Any failure on the part of any Party to exercise right or power under this Contract shall not operate as waiver thereof.

33.3 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.

33.4 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.

33.5 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.

33.6 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.

33.7 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.

The warranty conditions will be as mentioned in the list of requirement as per section VI of the tender enquiry.

SECTION - VI
LIST OF REQUIREMENTS

Part I

List of items with quantities, warranty & CMC period.

Sl. no.	Short description of items	Consignee	Qty.	Total Qty.	Warranty (Years)	CMC (Years)
1	MRI 3.0 T	Rohtak	1	1	5	5
2	CT scan-64 rows/128 slice	Aligarh	1	2	5	5
		Rohtak	1			
3	1000 mA Digital Radiofluroscopy Flat Panel	Amritsar	1	1	5	5
4	Digital Radiography 1000mA	Aligarh	1	2	5	5
		Rohtak	1			
5	High end Colour Doppler system	Rohtak	1	1	5	5
6	Anaesthesia M/c with ventilator (High end)	Aligarh	9	28	5	5
		Rohtak	19			
7	Ventilators high end	Rohtak	12	12	5	5
8	Central station for ICU with 10 Bed Side Monitoring System (1+10)	Rohtak	2	2	5	5
9	Central Station for ICCU with 8 Bed Side Monitoring system (1+8)	Rohtak	1	1	5	5
10	**Multiparameter Monitor**/Patient monitor - 5 Parameter/3 Parameter/Vital Sign Monitor	Aligarh	45	98	5	5
		Rohtak	48			
		Tanda	5			
11	Defibrillator	Rohtak	14	14	5	5
12	Patient bed - ICU bed (Advance)	Aligarh	16	18	5	5
		Rohtak	2			
13	High definition laparoscoy system with accessories	Rohtak	3	3	5	5
14	Arthroscope	Rohtak	1	1	5	5
15	Ortho Drill - Battery operated	Aligarh	1	3	5	5
		Rohtak	2			
16	Harmonic Scalpel	Aligarh	1	3	5	5
		Rohtak	2			
17	Operating Table - Electro hydraulic	Aligarh	12	34	5	5
		Rohtak	22			
18	ENT Operating Microscope & Video camera unit	Aligarh	1	2	5	5
		Rohtak	1			
19	Heart Lung Machine (with five pump console with one pump giving pulsatile flow with battery backup of all pump heads)	Aligarh	1	4	5	5
		Amritsar	1			
		Tanda	2			
20	Automated Immunochemistry analyzer/ Fully Automated Immunostainer	Amritsar	1	1	5	5
21	Immunophenotyping Machine/ Flowcytometer	Amritsar	1	1	5	5
22	Automated Karyotyping and Fish software	Amritsar	1	1	5	5
23	Complete Cath Lab	Amritsar	1	2	5	5
		Tanda	1			
24	Colour Dopler -Portable	Rohtak	1	1	5	5
25	CR System - High End Computed Radiography Unit	Rohtak	2	2	5	5
26	Electric Cautery / Electro Surgical Unit	Aligarh	13	35	5	5
		Rohtak	22			

Sl. no.	Short description of items	Consignee	Qty.	Total Qty.	Warranty (Years)	CMC (Years)
27	C- Arm	Rohtak	2	2	5	5

Legend:
GMCA - Govt. Medical College Amritsar
DRPGMC – Dr. Rajendra Prasad Govt. Medical College, Tanda
JNMC - Jawaharlal Nehru Medical College, Aligarh (AMU)
BDS PGIMS- Pt.B.D.Sharma Post Graduate Institute of Medical Sciences,Rohtak

Part II: Required Delivery Schedule:

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

75 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.

Installation and commissioning shall be done within 45 days of receipt of the stores/ goods at site or within 45 days of handing over the site for installation, whichever is later.

b) For Imported goods directly from foreign:

90 days from the date of opening of L/C. The date of delivery will be the date of Bill of Lading/Airway bill. (Tenderers may quote the earliest delivery period).
Installation and commissioning shall be done within 45 days of receipt of the stores/ goods at site or within 45 days of handing over the site for installation, whichever is later.

For delayed delivery and/ or installation and commissioning liquidated damages will get applied as per GCC clause 23.

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:

Warranty period as per details in general technical specification and as specified in Part I above. Warranty period will be 24 months from the date of installation, commissioning and acceptance or 30 months from the date of last shipment/dispatch, whichever is earlier.
Comprehensive Maintenance Contract (CMC) as per details in Technical Specification as specified in part I above

Part VI:

Required Terms of Delivery and Destination.

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

At Consignee Site(s)

b) For Imported goods directly from abroad:

The foreign tenderers are required to quote their rates on CIP Named Port of Destination Basis giving breakup 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

Item No. 1

MRI 3.0 T

Description

QR FOR HIGH END 3.0 TESLA MRI

Whole body 3.0 Tesla Magnetic Resonance Imaging system optimized for higher performance in cardiac and neurological examinations with short superconducting magnet, high performance gradients and digital Radio frequency system. The system should have 32 channels RF system. The system should be totally new and should not contain refurbished or having recycled items. The features should be minimum of that launched at the latest RSNA.

1 MAGNET

3.0T active shielded super conductive magnet with best homogeneity. Field stability over time should be < or equal to 0.2 ppm/hr

Length should be short with at least 70cm bore.

It should have facilities of better illumination ventilation and designed to avoid patient claustrophobia.

The homogeneity of the magnet should be mentioned in relation to 10, 20, 30, 40 cm DSV. Automatic shimming in phantom should be better than 3.5ppm in 40 DSV.

Please specify upto what FOV gradient linearity is maintained.

Magnet should be shielded from external interferences. Smaller fringe field preferred 5 Gauss and 10 Gauss Line in X, Y, Z axis specify yours Quote value for 5 gauss and 10 gauss line. The 5 Gauss line will have to be marked.

Cryogen vessel ‗to be of Helium only with appropriate super thermal shielding and refrigeration facility for minimum Helium boil-off, Specify the Helium tank capacity and boil-off rate.

Helium level monitoring equipment in the magnet and facility for appropriate quick shutdown of the magnet in The event of emergency

Helium refill time should not be < 2years. Please mention the helium refill time.

Noise level inside the examination room should be minimum as possible. Specify db level

Physiological signal display on Gantry

Built - in 2 way Intercom facility to communicate with patient is required

Emergency helium release button should be provided at least in two places [inside MR examination room and console room]

2 SHIM SYSTEM

High performance and highly stable shim system with global and localized manual and auto-shimming for high homogeneity magnetic field for imaging. Specify time for shimming. Quote the number of shim coil used

Off-centre shimming should be possible.

Auto shim (global and voxel shim) should take minimum time to shim the magnet with patient in position.

3 GRADIENT SYSTEM

Activity shielded Gradient System with strength of at least 44 mT/m with slew rate of 200T/m/sec. Quote the minimum rise time at 44mT/m. The rise time should not be more than 250 microsec. to reach the maximum gradient strength.

These true slew rates should be available in each axis independently, for overall better duty cycle performance of the gradient.

The duty cycle should be 100 percent.

The Gradient system should have provision for eddy current compensation. Mention level of Eddy current compensation in %

Field of View should be at least 45 cm in all three axes.

Minimum TE & TR in 2D/3D should be specified in relation to the sequences.

Minimum Slice Thickness in 2D & 3D should be specified in relation to the sequences.

Echo Train length in both Spin echo and Gradient Echo should be at least 255 or more.

The measurement matrix should be from 128x128 to 1024x1024 in both 2D and 3D imaging as well.

4 RF SYSTEM

A fully digital RF system capable of transmitting power of at least **25 KW or more (Single/ dual)** with a combination of RF power amplifiers. System should be capable of Multi Transmit with Multi amplifier driving /true shape for better **B1 homogeneity**

It should also have at least minimum of 32 independent ADC hardware RF channels with each having bandwidth of 1MHz or more along with necessary hardware to support Quadrature/CP array coils. (capability of faster reconstruction, please specify)

It should support Parallel acquisition techniques like ASSET/SENSE/iPAT with a factor of at least 4. Higher sectors if available should be offered optionally.

5 RF COILS

The system body Coil integrated to the magnet must be quadrature /CP. In addition to this coil, following Coils (preferably be with equal number of elements as the channels) be quoted. RF coils in addition to main body coil (Transmit / Receive or receive coils) auto tune, array or no tune coils. Coils for the following applications should be available with the system. Circular polarized (CP) Array coils should be included in the offer. Coil / RF design should support compatibility to coils manufactured by other manufacturers. Please confirm that the system can adapt to coils developed and manufactured by other manufacturers. Please substantiate this with examples. Please specify the measures taken to prevent dielectric artifacts? (Quadrature design & EPI compatible) in addition to main body coil. All array coils should be compatible with parallel imaging technique/s. Please specify the number of channels and elements available for each coil. Please mention the true acceleration factor for each of the array coils.

a) 32 channels or more head coil-**capable of multi frequency MR spectroscopy (H1). Dedicated Multinuclear/ Multi-frequency MR Spectroscopy Coil capable of H-1 and P-31 Spectroscopy should be quoted separately as an OPTIONAL item.**

b) Neck phased array 8 channels **or** more.

c) **Neurovascular coil of 16 channels or more**

d) **Spine phased array coil 32 channels or more**

e) **Body phased array coils 32 channels of more (single or in combination)**

f) **Dedicated Coil for peripheral angiography 32 channels or more as standard (Price to be quoted separately).**

g) **Dedicated Carotid coil (Price to be quoted separately).**

h) Breast coil 7 channel or more

i) **Dedicated Phased array coil for faster and high resolution Cardiac imaging – 32 channels or more; The 31 Phosphorus spectroscopy also to be possible. (Price to be quoted separately)**

j) Shoulder coil – Multi channel (8 channels or more) **flex loop** or rigid type – 2nos. (One large and one small)

k) **High resolution knee coil 12 channel or more**

l) **High resolution foot/ ankle coil – 8 channel or more**

m) **Multi Nuclear Spectroscopy coil(1H, 31P, 23Na, 13C) for Head and Liver as standard.**

6 PATIENT TABLE

The table should be fully motorized, MRI Compatible computer controlled table movement in vertical and horizontal directions Position accuracy should be +/- 1.0 C mm or better.

Should be able to take at least 140 kg load.

Deleted

The table should have facility for manual traction in case of emergency.

Cushions and other patient comfort accessories. All parts of the table should be protected from liquid spill

The table should have patient auto alarm system.

The CCTV system with LCD display to observe the patient.

The table should deliver the protocols for automatic bolus chasing in peripheral angio with automatic table movement.

Separate MR compatible patient trolley and wheel chair for patient transport to the magnet.

Two way communication should be possible with the patient from the console room.

7 COMPUTER SYSTEM IMAGE PROCESSOR / OPERATOR CONSOLE

Computer should be latest in the industry, fast and efficient

One color console for acquisition, all calculations, post processing etc Console must have full colour with user define protocols with programmable inter scan delayNecessary image processor with large RAM for ultra-fast image reconstruction should be provided It should be at least 8 GB RAM. Please specify RAM and reconstruction speed in images per second for full FOV 256 matrix. Higher will be preferred.

Computational Speed to match the single shot Echo Planar Imaging (EPI). Interactive angiogram, multi-planar three dimensional (3D) reconstruction, surface rendering, dynamic Imaging, vascular Imaging/angiography. functional imaging, DTI etc. The main host computer should have at least 18-inch or more TFT/LCD type color monitor.

The main console should have facility for music system for the patient in the magnet room.

Filming and adequate storage for images and other applications..

Total hard disk memory to be sufficient to store at least 250,000 images of 256 x 256 matrix data size.. Systems offering higher' storage will be preferred. The system should have CD/DVD archiving facility on the main console and work station.

Dual DVD write/CD Read/Rewrite drive for writing of images, spectra and raw data along with the necessary software for reading the Images and spectra on DVD/CD storing capabilities. Provision for archival of k-space data and raw (unprocessed) images.

There should be a provision of retrieval of the reconstruction data (raw files) in an user friendly manner.

DICOM interface to hook DICOM dry/laser camera capable of storing printing 1024 x 1024 matrix size images at least in 16 format without loss of digital resolution.

The system should be capable to connect to PACS through RIS/HIS at no extra cost. Highest version of DICOM connectivity be provided.

8 WORKSTATION

1 Two workstations (thin client server architecture based) with post processing tools as specified below. The server (single/dual configuration) should have image storage capacity of 3 Tera bytes, **minimum 40,000 concurrent slice processing power** and at least 64GB RAM. Necessary Workstation hardware to be includedwith 18" or more TFT/LCD Medical Grade (2 megapixel or more resolution) monitor with dual processor, separate hard drive with image storage of at least 2.5 lakh images (256 x 256 matrix) with CD RW or DVD RW. DICOM 3.0 compatibility and interfacing with other modalities must be possible.

2 All necessary software including post-processing software for all offered applications (point no. 9,10) including evaluation for fMRI, perfusion (Contrast perfusion and T1 perfusion), diffusion, DTI with fibertracking, cardiac evaluation, and other associated post processing like MIP, MPR, surface reconstruction should be provided.

The workstation should have the following features:

1 Cardiac perfusion analysis & Processing of Real Time BOLD imaging data, with colour metabolite mapping, quantification of the CSF flow date.

2 Should mention whether software for vascular properties like IAUC, KEP is available.

3 DSA images should be viewable in Subtraction mode.

4 Necessary and adequate hardware and software for sending and receiving the patient data{text + images}. Printing of films should be possible from both main console and workstation. Workstation should also be able to function independent of the main console.

5 Post processing of the MRS data including for CSI with paramagnetic metabolic mapping.

6 Capability to calculate colour display of real MTT, real CBV, and real CBF.

7 Compatibility with data from other MRI system for post processing.

8 Output in the form of jpeg, avi / equivalent formats should be possible.

Cardiac Package (Price to be quoted separately). :The workstation should have display of Cardiac cine images in movie mode with rapid avi creation and should have comprehensive cardiac post processing software including for coronary MRA with regular free upgrades in future. Calculation of ventricular area and volume, stroke volume, ejection fraction and relative ejection fraction, Time volume diagram generation, filling rates and myocardial wall motion, Graphic display of output calculation of flow and velocity parameter with colour coded display of velocity parameters.

9 DATA ACQUISITION

The system should be capable of 2D and 3D acquisitions in conventional, fast & ultra-fast spin echo and gradient echo modes so that real- time online images can be observed if needed.

2D multi-slice imaging should be possible in all planes (axial, sagiltal, coronal, oblique arid double oblique).

1024 x 1024 matrix acquisition for all applications

Half Fourier or other techniques to reduce scan acquisition time while maintaining adequate SNR

3D volume, multiple contiguous slabs, multiple interleaved and multiple overlapping slabs

Slice thickness in 2D and partition in 3D to be freely selectable

Dynamic acquisition (serial imaging) with capability to initiate scan sequences either from the magnet panel or from the console.

Dynamic acquisition number of repeat scans with delay time either identical time interval or selectable.

Auto slices positioning from the localizer images.

Maximum -off centre positioning both anterior-posterior and lateral direction and should be selectable.

Gating: physiological signals like ECG, pulse, respiratory, external signal triggering (interface for triggering input pulse from external source).

Simultaneous acquisition, processing and display of image data in 2D multi-slice mode.

Selection of voxel from oblique slices should be possible while doing spectroscopy.

The application software for image smoothing and edge sharpness etc. for improvement in image resolution should be quoted.

Artifact reduction/motion correction techniques/imaging enhancement/image filtering/image subtraction/addition multiplication/division techniques:

Flow 1st and 2nd order flow artifact compensation.

Presentation slabs: a number of relocatable saturation bands to be placed either inside or outside the region of interest.

Magnetization transfer saturation: Off resonance RF pulses to suppress signals from stationary tissue in FOV phase contrast capability in 2D & 3D mode.

Breath Hold Acquisition for Cardiac and Abdominal Imaging must be possible.

Fat saturation techniques: frequency selective RF pulses to suppress fat signal in the measured image FO. ROI selective (regional) fat suppression should also be given.

Magnetization transfer saturation; OFF-resonance RF pulses to suppress signals from stationary issue in FOV.

Phase contrast capability in 2D and 3D mode.

Image intensity correction.

Breath hold acquisition

10 EPI MODE

Single and multi-shot EPI imaging techniques.

Data acquisition in all three standard planes (axial, sagittal coronal) and oblique and double oblique planes

Multicoil acquisition in order to optimize throughput increase and increased effective FOV. Individual acquisition of every coil should be mentioned.

Higher matrix acquisition capability in single shot EPI, Acquisition time, TR TE and slice thickness should be clearly mentioned and supported by data sheet reference.

11 IMAGING SEQUENCES

The system should be capable of selecting TR and TEs as per requirement in majority of the pulse sequences.

Spin echo (SE); multi-slice single echo, multislice multi- echo(B echo or more) with minimum TR and TE. SE with symmetrical and asymmetrical echo intervals: MT-SE imaging sequence.

Inversion recovery (IR) including short TI, modified IRSE, FLAIR, DIR (Double Inversion Recovery) MT and FLAIR.

Gradient echo (GE) 3D gradient echo with shortest TR and TE, free choice of flip angle selection while maintaining SNR

Fast Sequences

Fast spin echo in 2D and 3D mode TI, T2 and PD contrast capable of acquiring maximum number of slices with a given TR a minimum TE. echo train should be at least 128 or more in fast spin echo mode.

Half Fourier acquisition capabilities should be available with/ without diffusion gradients and in combination with fast spin echo.

Fast inversion recovery with spin echo.

Fast gradient spin echo, IR multi-slice multi-echo mode with maximum turbo factor Sequences should incorporate RF focusing to acquire ultra-fast gradient spin echo.

Fast gradient echo sequence should be provided to acquire images in ultra-fast 2D and 3D mode.

Fat and water suppressed imaging sequences including the sequence which should give 4 contrast (in phase, opposed phase. FAT and Water) images in a single acquisition to be quoted as

standard. EPI optimized sequences for T1, T2, PD imaging. perfusion, regular diffusion values {5b, 3 directions), EPI-FLAIR. CPI-IR, IPI-FLAIR diffusion tensor. EP1-MT-FLAIR, tensor diffusion (5b values in minimum in six directions) for diffusion studies. Suitable artifact/fat suppression techniques to be
incorporated in the sequence to have optimum image quality. There should be capability of generation of ADC map (isotropic and anisotropy from the regular diffusion and tensor data). Facility of online generation of ADC map should be there. Optimized sequence package for special applications.
MR angio; 2D/3D TOF, 2D/3D Phase contrast (with and without gating) magnetization transfer saturation, black blood angiography for cerebral, pulmonary, abdominal and peripheral vessel For peripheral angio moving table angiography should be offered so that complete limb can be examined in one go Bolus tracking software package should be offered. Sequences for breath hold angiography with contrast enchainment should also be offered.
NON Contrast Angiography like Native, Inhance, Trance for whole body applications to be quoted as standard.
Contrast bolus tracking (including single shot whole body MRA, interactive and automatic, etc.
The system should have the Hydrogen, Single Voxel spectroscopy, Multivoxel, multislice 2D, 3D Spectroscopy and also the Chemical shift imaging in 2D/3D. The complete processing / post-processing software including color metabolite maps should be available. Full comprehensive cardiac sequences which includes, (a) MR cardiology package for evaluation of heart in long and short axis with black blood cardiac imaging, (b) package for- prospective and retrospective gating, etc. Advanced Cardiac Applications: morphology, wall motion, perfusion imaging myocardial viability imaging, Cardiac functions including EF, ED/ES volume, Cardiac output, and wall thickness. This processing can be in workstation and console.
Sequence package for diffusion study including DTI (tractography) in organs like brain, kidney, musce, heart, etc
Perfusion study in organ systems like kidney, brain, heart etc. Evaluation package for calculating CBV, CBF, MTT, perfusion map etc. Post processing of perfusion should be available in console also.
Sequences for MRI imaging of joints with Metal implants like WARP/Maverick should be offered
Fat and iron quantification software for Liver should be offered as optional.
Hardware and sequences for MR elastography should be quoted as optional.
Contrast Kinematics likeTWIST / TRICKS / **4DTRAK**should be offered.
Color T2 mapping of cartilage should be offered as optional.
Image fusion should be offered
Whole body imaging of 200 cm should be offered
Programming environment under research agreement should be offered for creating and modifying pulse sequences and working on the system.
Flow quantification in vessels and CSF, hepatobiliary system.
MRI neurofunctional imaging sequence including BOLD/ Mosaic etc.
Optimized breath hold sequences for abdominal studies including angiogram.
Sequence package for functional mapping of brain.
Internal ear imaging. 3D acquisitions like CUBE. SPACE, VISTA to be quoted as standard.
Susceptibility Weighted imaging should be provided as essential.
Zoom RF Focussed Imaging for clinical application of high SNR even in small FOV should be available. Specify the details (The smallest FOV and the technique)
Non Contrast perfusion Imaging software like ASL and its post processing should be offered MR Cholangiography and Pancreatogram: Both breath-hold and respiratory triggered - Specialized sequences and processing to perform MRCP.
Pulmonary 2D/3D MRA sequence, including single breath hold sequence.

MR ventriculography and cisternography, Myelography.

Parallel acquisition technique such as SENSE/SMASH/ASSET/iPAT, ARC and other new sequences to be quoted as standard.

Specify the factor by which the acquisition time is reduced for similar acquisition with and with out parallel imaging technique. A scan time reduction factor 4 for head, body, cardiac, angio and ortho application is required.

Flow quantification packages for CSF with dynamic CSF flow imaging, aqueduct. and spinal canal In-line motion correction for uncooperative' patients/pediatric applications, that is motions/patient movement correction sequence and algorithm (not just faster scanning or parallel imaging techniques) for non-cooperative/sick patients/children should be provided.

Specify availability of Automatic planning, scanning and post processing.

1 POST PROCESSING AND EVALUATION

2

3DMultiplanar reconstruction (MPR) in any arbitrary plane including curved planes with freely selectable slice thickness and slice Increments.

3D Surface reconstruction and evaluation on reconstructed images with minimum time.

MIP in 2D and 3D mode, targeted/segmented MIP in any orthogonal axis with minimum processing time and capable of displaying in cine mode.

Full cardiac evaluation Operator selective or automatic contour mapping and calculation of Cardiac parameters like wall thickness, stroke volume EF, filling rate myocardial wall motion including display of data in label, graph and in cine mode. Blood flow quantitation, velocity mapping, pressure gradient quantification shunt quantification, regurgitation calculation, stenosis blood flow, etc. These should be usable on main or on the work station. Evaluation and display of diffusion images, fMRI reference of EPI optimized sequence as described in 9.5

Full Perfusion imaging with necessary post processing with time intensity graph and other statistical parameters.

Flow quantification and evaluation for vascular (high and low). CSF, bladder outlet and cine display Full Fledged Advanced Functional MRI: Whole brain coverage using high temporal resolution T2* - weighted BOLD) imaging Single-shot EP1 for multi-slice imaging. Complete fMRI processing software, Automatic real-time processing of functional BOLD MR data sets into functional activation map

Full post processing for SVS, CSI, metabolic mapping with colour coding

Image statistics: measurement of distance, area, volume (2D and 3D), angle, SD, mean, image addition subtraction, multiplication, division, interpolation, segmental, threshold, histogram (ROC) Evaluation features like zoom, rotation, scroll, image synthesis, multi point T1 and T2 calculation (more than 8) window searching, text dialogues graphics. Sorting, searching, archiving, recalling, etc.

1 UPS

3

The system should be provided with the suitable UPS system for the complete system (MR + accessories except chiller supplied) with at least 30 minutes back up. Chiller to be provided. Give details.

1 DOCUMENTATION

4

The dry imager system should have digital DICOM 3.0 dry chemistry camera with resolution of 16 bits/ 600 dpi or more. The system must have at least three online film sizes, and should be capable to

print on any of the 8 x 10, 10 x 12, 1l x 14, 14 x 14 x 17 sizes. The system should be freely configurable by the user, to use any of the above mentioned size.

1 A color laser printer for printing color images and protocols on plane in 1200 dpi resolution and

5 more than 20 ppm.

1 ACCESSORIES

6

Storage box for all coils

Must have independent dual Syringe Pressure injector with following Features; Non-ferrous, automatic syringe size detection, performs singe/dual phase contrast injections, provides Saline flush delivery and allows timed contrast delivery Must be compatible with 10, 15, 20 & 30m1 pre-filled contrast syringes and 50 ml syringes for both saline & contrast **(200 Nos of 50 ml Syringes with 500 nos. of tube connectors should be provided)** Must be able to observe progress of injection and view injection result

MRI Compatible ECG leads (Electrodes) (1000 nos.) and Pulse oximeter

MRI Compatible Anesthesia Machine with integrated Ventilator, 2 vaporiser, circle absorber

a) Capable of ventilating adult, pediatric and neonates.

b) Software for ventilation should support Volume control, Pressure control and Pressure support modes.

c) Should have oxygen, nitrous oxide and air flow meters

d) Isoflurane and sevoflurane vaporisers

e) All safety alarms

f) MRI Compatible 2 sets of laryngoscope :4 sizes blades- Neonatal, paediatrics, adult, extra large.

g) MRI compatible Magill forceps : Adult & paediatric size- Two each.

h) Stylet for endotracheal tube : Ault, paediatric size- Three each

i) MRI compatible Clamps 2 Nos : Either towel clip or artery forceps.

j) MRI Compatible two IV stands. (if not provided already)

k) MRI compatible suction apparatus - 2 Nos

l) Two Anesthesia bed/trolley for recovery.

m) One MRI compatible monitor in MRI Room and One Slave monitor in console room with following modules provision to monitor –

Heart rate

ECG

NIBP – Size of Cuffs (adult & pediatric neonatal)

Respiration (Capnograph)

Two IBP – Pressure transducer with the MRI compatible stand.

Oxygen saturation – Pulse oximeter with adult, pediatric probe, and neonatal probes - 2 sets (with the spare probes), Should have plethysmograph perfusion factor.

ETCO2 and ETAA (end tidal anesthetic agents)

Temperature (adult and pediatric)

MRI compatible infusion pump – 3 Nos.

Arrangement of Gas lines in recovery room and magnet room – MRI compatible high pressure gas outlet for

Oxygen
Air
Nitrous Oxide with MRI compatible indexed system.
Vaccum suction
Nonmagnetic IV stand.
Two non-magnetic patient transfer trolleys should be provided
Metal detectors three in number, two of which are hand held.
Phantoms to be provided for regular QA studies.
Complete manuals and other necessary documentation's should be provided.

17 TRAINING

Qualified personnel nominated by the deptt, should be given application training by the vendor at their cost at site.

18 STANDARD AND SAFETY

Should be FDA or CE approved product.

19 GUARANTEE

5 years guarantee of complete MRI system along with all accessory equipment supplied i.e. Camera, AC, Chiller, UPS etc. The warranty should start from the day of complete satisfactory installation of equipment.
Please attach a complete list of spares which would be provided with the equipment.

20 SERVICE

After warranty CMC for next Five years for complete MR system and all that is supplied with the system including ACs, etc.

21 TURN KEY INSTALLATION

The system should be installed and handed over in working condition with all necessary electrical, air conditioning and civil work undertaken by the vendor in consultation with the user dept.
All necessary interconnecting interfaces, cable, modules, and other hardware and software to fully integrate the system for full operational status.
Suitable generator to run MRI with all accessories.

22 SPECIAL CONDITIONS

In case the company can offer any other technical features which are better than these specifications of would be available at the time of machine is installed. Point wise technical compliance report supported along with the original product data sheet must be submitted in all truthfulness and shall be the essence of the technical bid. In the absence of this the offer may liable to be rejected. The offered unit must be FDA/CE approved. All operating, service and technical manuals of main and sub system must be supplied in duplicate.

Added Para :

EPI MODE

10 BOLD, SWI, T2 Perfusion (with all post processing licences as standard)
Complete Functional MRI of Brain package as standard (incl. of patient camera, goggles etc).
Susceptibility-weighted Phase Imaging to differentiate calcification & haemorrhage.

11 IMAGING SEQUENCES

MRS: Proton (1H) MRS- Single voxel (SV), Multi-voxel CSI -2D and 3D- in both short and long TE

Multi nuclear – 31P, 23Na and 13C with compatible necessary hardware (Optional- Price to be quoted seperately).

MRS – 31P – Specify details of sequences and preparatory pulses used.

Specify future upgradability for 23Na & 13C MRS with necessary hardware/coil.

Iron, Elastography Cartilage – Standard

Fat and iron quantification of liver: standard

Hardware and sequences for MR Elastography of abdomen: Standard. (Price to be quoted separately)

The Turnkey Scope of Work - MRI

The Supplier should inspect the proposed site offered by the Consignee Institute in which the MRI system has to be installed and they are required to submit the plan for the complete MRI Scan Centre on a turnkey basis. The scope of work includes complete Civil work, Electrical, Plumbing, Furnishing, Air-conditioning and Fire fighting for the construction of MRI Scan Centre.

2) While preparing the plan, the following aspects have to be addressed.

e) Care should be taken to provide easy negotiation of the patient stretchers/ trolleys through corridors and doors.

f) RF shielding for doors, walls, glass viewer etc.

g) Furniture like desk, chairs, shelves etc.

h) Patient stretcher and other furniture/ accessory to make the scan centre functional.

3) **The cost of Turnkey for the area of 1500sq.ft and Air-conditioning of Tonnage 15 TR will be considered for Ranking / Evaluation purpose.**

4) Moreover Bidders will have to quote the Unit Rates of the following components of turnkey work.

a) Civil works

b) Electrical work

c) Public health (plumbing and sanitary fittings).

d) Air Conditioning (HVAC)

e) Interior Furnishing & Furniture

f) Miscellaneous

Scope of work for turnkey MRI unit works:-

The supplier should inspect the proposed site and submit all the detailed structural and architectural drawings and BOQ for the proposed MRI Scan Centres along with technical bid of the tender.

The MRI SCAN CENTRE shall consist of the following rooms:

a) MRI Room

b) Console room

c) Equipment room

d) Patient preparation room

e) Reporting room

f) Patient waiting area

g) Radiologist room

The actual area of turnkey works done will be considered for payment, based on the site measurements.

Civil work

a) Civil construction work including construction of brick wall, plastering, flooring as per the approved plan and equipment layout plan.

b) Concrete bed at MRI equipment area.

c) Platform for unloading and shifting the MRI should be provided if necessary.

d) Platform for Chiller unit would be provided. Fencing and weather protection facility should be provided for the Chiller unit.

e) Cable tray, trench & channel – necessary trenches, cable tray and channels at required location would be provided.

f) All the construction work to be done as per the final plan approved by the purchaser.

g) Active and passive room shielding for magnetic, fringe field should be provided as per the requirement of the equipment.

a) Flooring

3 600 x 600 mm vitrified tiles with 100mm tile skirting to match in console room, lobby and patient preparation areas, Radiologist room etc.

4 50 mm thick cement concrete flooring with Vinyl flooring in MRI equipment / UPS room.

b) Painting

2 Two coats Plastic Emulsion Paint over 2 coats of wall putty including primer in patient preparation area, Lobby area, console room, MRI equipment room etc.

3 Pre laminated particleboard wall panelling in MRI examination room

c) False Ceiling

2 Acoustical tile for ceiling with light weight insulating material of high quality supported on grid or finished seamless with support above ceiling. Finished with white paint or powder coated with white paint, if metallic. Ceiling height to suit the equipment mount and clearances.

Plumbing work

1 All water pipes and fittings shall be of high density polythene of approved and standard make. The gratings shall be brass chrome plated. All plumbing accessories should be of standard make.

2 Copper pipes to be used for plumbing the Chiller to the MRI.

Electrical work

1 The supplier shall be required to specify the total load requirements for the MRI scan centre including the load of air conditioning , room lighting and for the accessories if any. The supply line will be provided by the Institute up to one point within the MRI Scan centre area. The distribution panel shall be provided by the vendor. Few lights in each room shall be connected to the UPS to provide emergency lighting.

3 The electrical work shall include the following:

a) Wiring – All interior electrical wiring- with main distribution panel board, necessary MCBs, DB, joint box, switch box etc. the wires shall be of copper of different capacity as per the load and should be renowned make as listed below.

b) Switches light and power points should be of modular type and of standard make as listed below.

c) General lights – Mirror optical type 1X28 W or 2X28 W/CFL fittings 2X36, 3X36 W with electronic ballasts.

d) MRI compatible lights for MRI examination room. The bulbs used within the RF cage should be easy replaceable and locally available.

AIR CONDITIONING:

Ductable package air conditioners and split AC units may be used according to room requirement and suitability. Humidity control should be effective to eliminate moisture condensation on equipment surface. . The Air conditioning should be designed with standby provision to function 24 hours a day. a)

The outdoor units of AC should have grill coverings to prevent theft and damage.

Ventilation is required in toilet.

Environment specifications:

a) Humidity range: Relative humidity 60% and 80% in all areas except equipment room which shall be as per requirement of the equipment.

b) Temperature ranges: 22 ± 2° C in all areas except equipment room which shall be as per requirement of the equipment.

c) Air conditioning load: The heat load calculations and maintaining the desired temperature and humidity shall be the responsibility of the bidder

Furniture:

a) Revolving chairs height adjustable, medium-back with hand-rest in the Control room, Radiologist room and viewing area. – **4 NO.S**

b) Chairs for patient waiting area – Three seater (chrome plated). - **10 NO.S**

c) Cupboard with laminate door shutters for storage of spare parts and accessories and records as per requirement. – **3 NO.S**

d) Drug trolleys for patient preparation area.- **1 NO.**

e) Patient trolley with rubber foam mattress to be kept in the patient preparation room.

f) Name boards for all rooms

g) Tables for Workstation and Radiologist in reporting room.- **2 NO.S**

h) Changing rooms should have change lockers and dressing table.

i) Dustbins (plastic with lid) to be provided as required.

j) Any other furniture item as per requirement.

All furniture items should be of standard make as mentioned in the table below.

Miscellaneous:

1. Reporting room should have LED X-ray Film viewer with adjustable brightness; capable of holding 3 films of 14”x17” size. – 2 no.s
2. Cabling of Network (LAN) connectivity for camera system, console system, workstation and computers etc
3. Broadband connection: for REMOTE SERVICE of MRI system.
4. Fire extinguisher Dry CO2 type as required for the building safety.

LIST OF ITEMS AND SUGGESTED MANUFACTURERS.

SL NO	ITEMS	PREFERRED MAKES
A	**FLOORING VITRIFIED TILES**	-Somany, Kajaria , H&R Johnson, RAK india
B	**PAINT**	- Dulux, Asian Paints , Nerolac
C	**PLUMBING**	- Kohler, Jaguar , Grohe , Roca
D	**SANITARY ITEMS**	- CERA, Hindware, Parryware
E	**ELECTRICAL**	
1	**CABLES**	- Finolex, Havells ,V-Guard
2	**SWITCHES**	- Legrand, L&T, Crabtree , Roma
3	**DISTRIBUTION BOX , MCB**	- Legrand, L&T, Siemens, Havels
4	**LIGHT FITTINGS**	- Philips / Crompton / Kesselec-Schreder / Wipro.
F	**AIR CONDINTIONING**	- Daikin, Hitachi, Blue Star, Voltas,
G	**FURNITURE**	- Hermen Miller , Godrej , Featherlite

Item No. 2

CT SCAN – 64 Rows/128 slice

The system should be latest state of art, **independent 64 or more rows of detectors with acquisition of at least 128 slices per rotation** capable of integrating with any PACS/HIS system. The system should be DICOM - ready with true isotropic volume acquisition and sub millimeter resolution. The model quoted should be, AERB Type approved and US FDA / European CE certified. The essential requirements of the system are as follows:-

a) Gantry:

- Aperture: 70 cms or more
- FOV: 50 cms or more
- 3-D laser lights for positioning.

b) X-Ray Generator:

- High Frequency type.
- Power output : **70 kW or higher. The generator with the higher power output would be preferred. Also the bidder should mention whether the system would be capable of tackling the dual energy applications if there is an upgrade.**
- mA Range: 20-600 mA (With incremental steps of 10 mA)
- KV Range: 80-110 or more

c) X-Ray Tube:

- Tube Voltage: 80-110 kV or more
- Anode Heat Storage Capacity of at least **7.0 MHU** or direct cooling tube

d) Patient Table:

- Load carrying capacity at least of 180 Kg with positional accuracy of 1 mm or less

•Metal free scan-able range of 150 cm or more

•Floating table top with foot pedal/hand control for positioning.

e) Spiral Acquisition:

•Scan Time should be 0.4 sec or less for full 360 degree rotation.

•Minimum slice thickness should be 0.625 mm or less.

•Pitch Factor (volume pitch): freely selectable in auto mode and also manually variable between 0.5 to 1.5 or more. Specify all possible pitch selections.

•Bolus Triggered or bolus chase spiral acquisition should be available.

•Real time x-ray dose reduction which combines both Z axis and angular tube current modulation to adjust the dose to the size and shape of individual.

f) f)Image Resolution:

1 High contrast resolution should be at least 15 lp/cm for axial and spiral scan at 0% MTF with full FOV.

2 Low contrast resolution – 5mm or less at 3.0 HU using 20 cm CATPHAN phantom on 10 mm slice thickness.

g) Data Acquisition System:

•Detector- Capable of acquiring 64 slices per 360 degree of rotation.

•At least 64 rows of independent detectors **with acquisition of at least 128 slices per rotation with maximum Z-axis coverage**

•Solid state or rare earth detectors of latest technology free from repeated calibration.

h) Image Reconstruction:

•High speed real time reconstruction with display matrix of 1024x1024 or more.

•Reconstructed slice thickness should be sub-millimeter to 10mm freely selectable.

i) Operator Console:

• High resolution medical grade LCD color monitors of 19" or more.

•Should perform Registration, scheduling, protocol selection, Volume rendering, volume measurements, Multi-planar Reconstruction, and standard evaluation application and all available post processing functions without the help of the satellite workstation.

• Raw Data storage with at least 500 GB Hard disc having image storing capacity of 5,00,000 or more in 512x512 format.

• Auto-voice capability with custom designed key board and mouse.

• Archiving options: CD-R, DVD, should be available. 5000 rewritable DVDs should be provided.

j) Workstation client server architecture:

1 It should be a high speed (minimum post-processing frame rate of 16 frames/sec) CPU with a speed of 3.0 GHz or better and with an independent Hard disc storage capacity of 512 GB or more, with 19 inches or more high resolution medical grade colour LCD monitors capable of simultaneously viewing and performing all post processing functions and filming independently without the help of main console.

2	Memory of the workstation should be independent of the console.
3	Two way data transfer between the operator console & the satellite workstation should be automatic and standard.
4	**Post Processing Soft-wares**
i)	Perfusion CT for brain
ii)	CT Angio, VRT, MIP, MPR, 3-D Shaded Surface display, Image Fusion, Vessel segmentation, luminal view
iii)	Virtual Endoscopy with facility for virtual dissection and computer aided detection of polyps.
iv)	Advanced cardiac package including Coronary Artery Imaging, Calcium Scoring, Myocardial Viability software, Cardiac functional analysis and advanced Vessel Analysis including stenosis assessment. Facility for prospective and retrospective ECG gating, facility for automatic selection of rotation speed according to heart beat and step and shoot for low dose acquisition should be available.
v)	Automatic bone Removal facility.
vi)	Dental CT.
vii)	Lung nodule evaluation software. CAD for Lung nodule evaluation software should be quoted as optional.
viii)	Liver segmentation display software in different colours, volumetry and virtual surgical plane identification
ix)	Bone Mineral Densitometry software **with BMD Phantom.**
5	Interactive & Automatic Cine display should be available.
6	Image Evaluation Tools:
(i)	Parallel evaluation of multiple ROI in circle, irregular and Polygonal forms,
(ii)	Statistical Evaluation for area/ volume, S.D, Mean/Max and Histograms.
(iii)	Distance & angle measurement, freely selectable, positioning of co-ordinate system, grid and image annotation.
7	One similar independent post processing stations (workstations, total no.2) with all the software as in the main console should be available. . The necessary connectivity etc. for proper functioning should be provided by the vendor with the supply of standalone server of atleast 10 tera byte storage capacity with expansion slot of additional tera bytes. All post processing facility and data archiving should be available independently at both the workstations.
k)	**<u>Patient communication system</u>:**
1	An integrated intercom and Automated Patient Instruction System (API) should be provided.
2	Two closed circuit TV for patient monitoring.
l)	**<u>Dry Chemistry Laser Imager</u>:**
1	Resolution: 16 bits/ 500 dpi or more with minimum three ports.
2	Support Multiple Film Sizes: one of which must be 17”x14”.
3	DICOM 3.0 Compatible.
m)	**<u>System Configuration Accessories, spares and consumables</u>:**

• Collapsible wheel chair with rubberized swivel wheels - 01 nos.

•Standard Patient positioning accessories and restraining devices - 02 sets.

•Lightweight "ZERO LEAD" Radiation protection apparels including Aprons - 5 Nos. Gonadal shields – 5 Nos, Thyroid shields – 5 Nos and Lead goggles – 5 Nos.

•Lead Glass 100 cm x 150 cm of 2 mm Lead equivalence as per the requirement of the equipment. As per AERB recommendations

•Online UPS of suitable rating should be supplied for the complete system including Gantry, computer system, with at least 30 minutes back up.

•Dual Head Pressure Injector with 5000 syringes of 200 ml.

•Software for Remote Diagnostics Service should be provided.

•System must be PACS, HIS/RIS interface ready without any new hardware or software.

•Centralized oxygen and suction facility (to be connected to the nearest port) in gantry and recovery room.

• A free comprehensive software upgrade guarantee for entire life of scanner must be provided.

•Warranty: 60 months from the date of satisfactory installation. The warranty shall cover all the accessories, turnkey work including CT tube and all consumables.

•Comprehensive Maintenance Contract for next five years including all the accessories, turnkey work, Air conditioning and CT tube and all consumables.

•**Real time CT Fluoroscopy** with at least 6 to 8 frames per second with dedicated 21" color LCD monitor. Facility table side controls and foot switch for biopsy to be quoted separately. (optional)

n) **Instructions to the vendors/suppliers:** All companies must give product data sheets confirming the specifications along with the tender. ***The compliance statement must be filled strictly under the heading given in the tender***. Each specification corroborated in the compliance statement must give the page number where it is listed in the product data sheet. Incompletely filled information will not be considered.

o) Vendors are requested to see the site for installation of the CT.

AERB site approval: Vendors shall be responsible for getting AERB Site Plan approval prior to installation.

Added Para:

Should include Revolutionary technology in Needle Positioning using Robo*tics systems (Price should be quoted separately)*

Turnkey

Item No. 3

1000 mA Digital Radioflouroscopy Flat Panel

High powered X-Ray unit with digital flat panel for various fluoroscopy and radiography examinations for the department of Radio-diagnosis. **Any two components out of three (X-Ray Tube, X- ray generator and Flat panel detector) should be from the same principal manufacturer of the main (complete) system.**

The unit should be completely integrated system (integrated X ray generator and image acquisition control console) having the following specifications:

General

1000 mA unit with microprocessor controlled high frequency X-Ray generator with power output of 80KW or more
Exposure kV range should be 40-150kV.
System should have facility for pulsed fluoroscopy
Generator should have minimum exposure time of at least 1 ms
System should have multiple user defined programs (Vendor defined programs)

There should be provision for automatic exposure control (AEC).

Table

Floor mounted table with carbon fiber table top, scratch resistant surface
System should have motor driven **longitudinal, vertical and horizontal table top movements or Imaging chain movements.** Please specify the range of movements.

Please specify the range of movements.
Table should have angulations from longitudinal to head down positions.(Vertical+90 degrees to **Trendelenbrug-90 degrees)**
Table should support patient weight upto200kgs without any restriction of table movement.
System should have well designed foot switch for releasing fluoroscopy and acquisition

System should have provision for collision protection
Table should have integrated bucky unit for flat panel general radiography and Fluoroscopy
Intercom system must be available to communicate with patients.
Min table height should be 60cm or less.
Remote controlled compression cone.
Table should have provision for lateral imaging, without patient movement.

X ray Tube:

One X ray tube which is Over couch
The X-Ray tube should have dual focal spots.
X-Ray tube rating should be compatible with X-ray generator output.
Small focal spot power rating should be in the range 30-50 kW

Large focal spot power rating should be in the range 70 to 100 kW
Size of focal spots should be specified.
Anode heat storage capacity should be **600 KHU or more.**
Mention the heat dissipation rate.
Should have provision of electromagnetic locks with collision protection sensors

Direct Digital imaging System for fluoroscope
Field of view of at least 40cms X 40cm or more
Collimator should be automatic and remote controlled.
System should have real-time optimization techniques to maintain constant brightness at the lowest allowable dose to the patient
Should have Cine loop facility and last image hold facility during fluoroscopy

Acquisition matrix should of at least 1024X1024 at 10 bit rate
Digital fluoro system in standard continuous fluoroscopic operating mode from single image display to serial exposures with varying frame rates upto 15 fps. In pulsed fluoroscopy mode , it should be at least 6 frames per second

Detector System:
Single Digital flat panel detector, using **Selenium/Cesium Iodide detector** with TFT convertor.
Detector must be at least 40X40 cms or more
Image matrix size 2k X 2K pixels or more
Pixel size should be 200 micron or less.
Should allow centered/de-centered collimation
Image display system
Dual Monochrome monitors (2 nos) of 19" to be provided one in examination and other in console room with resolution of 1 Mega pixel or more. Specify monitors are wall mounted or trolley mounted.
Post-acquisition image processing, viewing, reprocessing, hard copy documentation and onward transmission should be possible while doing fluoroscopy or radiography.

Control Console
All system movements of table shall be controlled by the operator at the table in the examination room and also at the console
The system should have facility for edge enhancement, positive/negative image display, windowing, contrast/brightness, electronic shuttering, image/pixel shifting, vertical and horizontal image reversal, zoom functions.

The system should have fast and direct access to all series, single images, in both examination (Remote controlled) and console room
System should have angle/distance measurement, image labeling and patient positioning facilities.
System should have on line dosimeter on the console to display actual radiation dose.

Image storage and Transmission
Image storage capacity of at least **8,000 images** in 1024 x 1024 matrix at 10 / 12 bits on the main system disk.

The systems should support storage of images on compact discs/DVD.

The system should be DICOM 3.0 (or higher version) ready (like send, receive, print, record on CD/DVD, acknowledge etc.) for connectivity to any network, computer/PC etc. in DICOM format.

Vendor should connect this with existing LAN system and other laser cameras already existing in the department without any extra cost

Easy integration and networking should be possible with existing RIS including patient work list and study completion.

Accessories

i	One Dry Chemistry, Multiport, multiple films (14”x17”,11”x14” and 8” x 10”) camera with resolution of 500 DPI or more, DICOM ready and online. At least three size film trays should be active. The vendor should connect this camera with other existing cameras in department of Radiodiagnosis.
ii	DICOM Software with fast speed DVD Combo (Reader and Writer separately).
iii	Lead glass 100x 150 cm for console room.
iv	Two light weight 'zero lead' aprons, two thyroid shields, pediatric gonadal shields (All sizes both for male and female).
v	Radiation protection flaps
viii	**Suitable UPS with 140KVA for complete system for at least 30minutes back up.**
viii	Minimum necessary furniture like chairs, table etc.
viii	Fire extinguisher system to be connected to central system by vendor.
ix	Hand grip
x	Foot step
xi	Patient fixing belts and compression device (for performing excretory urography)

Installation

All site approval, layout approval from AERB shall be the responsibility of the supplier. Following commissioning, permission to operate should also be the responsibility of the supplier.

Complete turnkey project: The cost of alteration and preparation in a specified built in area on turnkey basis which will include civil, electrical and air conditioning is to be borne by the firm.

This work should be done in consultation with the Department of Radio-diagnosis and Engineering Section of AIIMS.

Power supply and AC requirements to be clarified and approved.

Lead lining and other radiation protection measures provided by bidder in the site should be AERB compliant.

Warranty/After Sale Service

Five year comprehensive onsite warranty of entire system (Spares and labour) including X-ray tube, civil, electrical and air conditioning works and all accessories (including dry chemistry camera, UPS etc.). This will be followed by 5 years comprehensive AMC.

95% uptime guarantee should be given. In case down time exceeds 5%, penalty in the form of extended warrantee, double the number of days for which the equipment goes out of service, will be applied

Essential certificate

Radiation safety certificate: The offered model must have a valid AERB type approved certificate at the time of submission of tender. NOC certificate from AERB will not be considered.

Quality certification: **CE (Europe) or USA FDA.**

Item No. 4

Digital Radiography 1000 mA

High powered X-Ray Unit for general radiography with digital flat panel technology. The system should be capable of both erect and supine radiological examinations. The unit should be completely integrated with the following specifications. **Any two components out of three (X-Ray tube, X-ray Generator and Flat panel detectors) should be from the same manufacturer of the main (Complete) system**

1	**The unit should comprise of the following:**
I	Two Flat Panel Detectors, one for Bucky Table and one for stand
II	Generator
III	X-Ray Tube and Collimator
IV	Ceiling suspended 3D Column Stand
2	**Flat Panel Detector:**
I	Flat Panel Detector size of at least 40 x 40 cm or more
II	Detector Panel should be made of amorphous Silicon **with CsI or Gadox.**
III	Image matrix size at least 2000 x 2000 or more
IV	Minimum pixel should be 200 micron or less
V	Grey scale of 12 bit.
VI	A/D of 14 bit or better.
VII	Tube assembly movement to be automatically synchronized with the detector movement.
VIII	Preview time after exposure **7 sec or less**
IX	Image processing time should not be more than 9 sec.
X	DQE at 0lp/mm should be at least 65% or more.
3	**Generator**
I	**X-ray generator should be of microprocessor controlled high frequency (mention the frequency) type with** latest technology having constant output with low ripple frequency.
II	Output 80 KW or more.
III	KVP range 40 kV - 150 kV with 1 kV steps.
IV	Output 1000mA or more at 80 KV or better.
V	KV/MA output specifications.
a	1000 mA at 80 kv.
b	800 mA at 100 kv.
VI	Minimum exposure time, should be 1 ms or less.
VII	It should have automatic exposure control (AEC) device
VIII	It should have digital display of KVP and mAs.
IX	Anatomical programming radiography should be possible
X	It should have over loading protection
4	**X-Ray Tube**
I	The X-Ray Tube should be rotating anode high speed (8000 rpm or more)compatible

	with the generator and must have dual focus.
II	Focal spots of the following sizes:
a	Large Focus: 1.2mm or less
b	Small Focus: 0.6mm or less
III	Please mention tube loading for small focus and large focus, should be atleast **30KW or more** for small focus and at least 80KW for large focus
IV	Tube with Anode heat storage capacity of 300kHU or more
V	Tube protection against overload
VI	Target angle should be at least 12 deg
VII	A high speed rotor accelerator (starter).
VIII	Please specify tube rotation at vertical axis and horizontal axis.
5	**Celing suspension**
I	Ceiling suspended3D Column stand with facility of automatic positioning and Synchronization
II	Movement in all direction should be easily possible
III	It should have auto-tracking and auto-positions functions
IV	Monitoring of all the position data on color touch screen for system control (kV, mAs, SID, tube angle, column angle)
V	SID (Source to Image Distance) in vertical positions150 cm or more, in horizontal position 180 cm or more.
6	**X-Ray Table**
I	Free floating Carbon fiber or equivalent table top table with low attenuation.
II	Anti-collision control system.
III	Table should support patient weight of 200 kg. or more.
IV	Auto-tracking capability without mechanical link.
7	**Vertical Bucky stand (wall Stand)**
I	Motorized, counter balanced adjustable height vertical Bucky for the digital flat panel detector
II	Detector movement should be synchronized (auto-tracking) with movement of X-Ray Tube
III	Bucky should have a grid ratio 10:1 or more.
8	**Filter & Collimator**
I	Inherent filtration of at least 1.00mm Al.
II	Square collimation: manual 85 motorized, should be controllable by organ programming.
III	Full field light localizer:
IV	Rotation of +/- 45 deg or more.
V	Display of collimation, filter 86 SID.
9	**Operating (Acquisition) Station**
I	Should have a high resolution TFT / LCD Monitor of minimum 19 inch size or more fully flat with minimum 1024 x 1024 or more display matrix and anti-reflective front screen
II	Please specify Image matrix size.
III	Operating console should have a facility for patient identity entry, viewing and processing images, documentation etc.
IV	Preview image should be ready in minimum time.
V	System should have auto protocol select
10	**Image viewing, post processing, reporting and documentation station**
I	It should have latest operating system.
II	High resolution TFT / LCD monitor of minimum 19-inch size or more.
III	Image display should be of high resolution.

IV	High luminance display for diagnostic image viewing.
V	Post -acquisition image processing, viewing, reprocessing, hard copy documentation and onwards transmission should be possible.
VI	Image processing functions like rotate, mirroring, zoom, move, windowing filter should be possible.
VII	Should be connected to Dry chemistry camera for documentation. Multi format printing should be possible with user selectable options.
VIII	It should have CD /DVD writing facility.
11	**Image storage and Transmission**
I	Hard disk storage capacity should be of 10000 or more images of 1024 x1024 matrix
II	The system should support storage of images on compact discs/DVD
III	The system should be DICOM 3.0 (or higher version) ready (like send,receive, print, record on CD/ DVD, acknowledge etc) for connectivity to any network computed/PG-etc in DICOM format.
IV	Easy integration and networking should be possible with any other existing future networking including other modalities HIS,RIS & PACS at no extra cost.
12	DAP: The facility to measure the radiation should be available.
13	**Accessories**
I	Dry Chemistry Camera. Should have minimum 500 DPI or more and should print at least 3 sizes of films on line out of 10x12,10x14,11x14, 8x10 and 14x17 inches.
II	Online UPS alongwith batteries of appropriate rating to give 30min. back up to operate the complete system including X-Ray machine.
III	Zero lead aprons-4 Nos.
IV	Stand for lead aprons-1
14	**Approvals**
	The bidder should provide **USFDA or European CE approved** and AERB approved certificate for machine. Please enclose any other certificate required for installation of the machine. NOC will not be accepted.
15	**Warranty/After Sale Service**
	Five year comprehensive onsite warranty of entire system (Spares and labour) including X-ray tube, civil, electrical and air conditioning works and all accessories (including dry chemistry camera, UPS etc.). This will be followed by 5 years comprehensive AMC.
16	Training: Minimum of 4 weeks of onsite training at the Hospital should be provide to radiographers and radiologists.
17	**List of installation.**
	The bidder should have installed the same model in India. The bidder to provide the satisfactory installation of the same model in India.
18	Spares: Manufacturer/principal to give undertaking to provide spares for next 10 years of their quoted model.
19	Principal manufacturer to give undertaking that they will maintain and service the equipment in case Indian agent/ supplier fails to provide the service.
20	**Product Data Sheet**
	All specification to be provided with original product data sheet. All technical specification should be supported with original data sheet highlighting the page number in the compliance sheet. Photocopy/computer print will not be acceptable.
	The equipment quoted should be the main equipment of the principal manufacturer. Two main components of the equipment i.e generator and X Ray tube should be of the same make and name as of the participating vendor. The x-ray machine and its main

components should find a place in the manufacturer's website and the copy of the webpage showing the same should be enclosed in the tender document. The bidder to mention its principal manufacturer's website address.

Turnkey will be site specific.

Added Para to 9. Operating (Acquisition) Station:

System should have latest processor with 4GB or more RAM and 2TB or more storage capacity

The Turnkey Scope of Work - DR

1 The Supplier should inspect the proposed site offered by the Consignee Institute in which the DR system has to be installed and they are required to submit the plan for the complete DR Centre on a turnkey basis. The scope of work includes complete Civil work, Electrical, Plumbing, Furnishing, Air-conditioning and Fire fighting for the construction of DR Centre.

2 While preparing the plan, the following aspects have to be addressed.

i Care should be taken to provide easy negotiation of the patient stretchers/ trolleys through corridors and doors.

ii Radiation shielding for doors, walls, windows etc.

iii Furniture like desk, chairs, shelves etc.

iv Patient stretcher and other furniture/ accessory to make the DR centre functional.

3 **The cost of Turnkey for the area of 1500sq.ft and Air-conditioning of Tonnage 15 TR will be considered for Ranking / Evaluation purpose.**

4 Moreover Bidders will have to quote the Unit Rates of the following components of turnkey work.

a) Civil works

b) Electrical work

c) Public health (plumbing and sanitary fittings).

d) Air Conditioning (HVAC)

e) Interior Furnishing & Furniture

f) Miscellaneous

Scope of work for turnkey DR system:

The supplier should inspect the proposed site and submit all the detailed structural and architectural drawings and BOQ for the proposed DR Centres along with technical bid of the tender.

The DR CENTRE shall consist of the following rooms:

a) DR Room

b) Console room

c) Equipment room

d) Patient preparation room

e) Reporting room

f) Patient waiting area

g) Radiologist room

The actual area of turnkey works done will be considered for payment, based on the site measurements.

Civil work

a) Civil construction work including construction of brick wall if any, plastering, flooring as per the approved plan and equipment layout plan.

b) Concrete bed at DR equipment area.

c) Platform for unloading and shifting the DR should be provided if necessary.

d) Cable tray, trench & channel – necessary trenches, cable tray and channels at required location would be provided.

e) All the construction work to be done as per the final plan approved by the Consignee.

Flooring

1 600 x 600 mm vitrified tiles with 100mm tile skirting to match in console room, lobby and patient preparation areas, Radiologist room etc.

2 50 mm thick cement concrete flooring with Vinyl flooring in DR equipment / UPS room.

Painting

1 Two coats Plastic Emulsion Paint over 2 coats of wall putty including primer in patient preparation area, Lobby area, console room, DR room & Equipment room etc.

False Ceiling

1 Acoustical tile for ceiling with light weight insulating material of high quality supported on grid or finished seamless with support above ceiling. Finished with white paint or powder coated with white paint, if metallic. Ceiling height to suit the equipment mount and clearances.

Plumbing work

1 All water pipes and fittings shall be of high density polythene of approved and standard make. The gratings shall be brass chrome plated. All plumbing accessories should be of standard make.

Electrical work

1 The supplier shall be required to specify the total load requirements for the DR centre including the load of air conditioning , room lighting and for the accessories if any. The supply line will be provided by the Institute up to one point within the DR centre . The distribution panel shall be provided by the vendor. Few lights in each room shall be connected to the UPS to provide emergency lighting.

2 The electrical work shall include the following:

a) Wiring – All interior electrical wiring- with main distribution panel board, necessary MCBs, DB, joint box, switch box etc. the wires shall be of copper of different capacity as per the load and should be renowned make as listed below.

b) Switches light and power points should be of modular type and of standard make as listed below.

c) General lights – Mirror optical type 1X28 W or 2X28 W/CFL fittings 2X36, 3X36 W with electronic ballasts

AIR CONDITIONING:

Ductable package air conditioners and split AC units may be used according to room requirement and suitability. Humidity control should be effective to eliminate moisture condensation on equipment surface. . The Air conditioning should be designed with standby provision to function 24 hours a day.

The outdoor units of AC should have grill coverings to prevent theft and damage.

Ventilation is required in toilet.

Environment specifications:

d) Humidity range: Relative humidity 60% and 80% in all areas except equipment room which shall be as per requirement of the equipment.

e) Temperature ranges: 22 ± 2° C in all areas except equipment room which shall be as per requirement of the equipment.

f) Air conditioning load: The heat load calculations and maintaining the desired temperature and humidity shall be the responsibility of the bidder.

Furniture:

A) Revolving chairs height adjustable, medium-back with hand-rest in the Control room, Radiologist room and viewing area. **– 4 NO.S**

a) Chairs for patient waiting area – Three seater (chrome plated). - **10 NO.S**

b) Cupboard with laminate door shutters for storage of spare parts and accessories and

records as per requirement. – **3 NO.S**

c) Cupboard with laminate door shutters for storage of spare parts and accessories and records as per requirement. – **3 NO.S**

d) Drug trolleys 1 numbers for patient preparation area.

e) Patient trolley with rubber foam mattress to be kept in the patient preparation room.

f) Name boards for all rooms

g) Tables for Workstation and Radiologist in reporting room.- **2 NO.S**

h) Changing rooms should have change lockers and dressing table.

i) Dustbins (plastic with lid) to be provided as required.

j) Any other furniture item as per requirement.

All furniture items should be of standard make as mentioned in the table below.

Miscellaneous:

1 Reporting room should have LED X-ray Film viewer with adjustable brightness; capable of holding 3 films of 14"x17" size. – **2 no.s**

2 Cabling of Network (LAN) connectivity for camera system, console system, workstation and computers etc

3 Broadband connection: for REMOTE SERVICE of DR system.

4 Fire extinguisher Dry CO2 type as required for the building safety.

LIST OF ITEMS AND SUGGESTED MANUFACTURERS.

SL NO	ITEMS	PREFERRED MAKES
A	**FLOORING VITRIFIED TILES**	-Somany, Kajaria , H&R Johnson, RAK india
B	**PAINT**	- Dulux, Asian Paints , Nerolac
C	**PLUMBING**	- Kohler, Jaguar , Grohe , Roca
D	**SANITARY ITEMS**	- CERA, Hindware, Parryware
E	**ELECTRICAL**	
1	**CABLES**	- Finolex, Havells ,V-Guard
2	**SWITCHES**	- Legrand, L&T, Crabtree , Roma
3	**DISTRIBUTION BOX , MCB**	- Legrand, L&T, Siemens, Havels
4	**LIGHT FITTINGS**	- Philips / Crompton / Kesselec-Schreder / Wipro.
F	**AIR CONDINTIONING**	- Daikin, Hitachi, Blue Star, Voltas,
G	**FURNITURE**	- Hermen Miller , Godrej , Featherlite

Item No. 5

High end Colour Doppler System

High End 3D Color Doppler Equipment – 1 no

The equipment must be capable of operating in B, M, Doppler, Color flow and Power Doppler modes, Contrast microbubble ultrasound & 3D / 4D Volume Scanning capabilities.

It should support transducers with linear, sector and convex formats. Further, it must include a full array of measurement and calculation packages. The specific minimum requirements for this equipment are as follow.

1 User Interface & Ergonomics

1.1 The keyboard should have Height adjustment. The adjustment should also include Keyboard rotation Side to Side.

1.2 The system shall support backlight keys or provide an integrated light for ease of use in

darkened work areas. The backlighting shall simplify ease of use and indicate function selected.

1.3 The system shall include at least a 19" LCD monitor for both excellent image viewing as well as providing for workflow and productivity features.

1.4 The LCD monitor shall be mounted on an articulating arm that moves side-to-side, forward and backward.

1.5 The unit shall have **gel warmer as attachment** for the comfort of the patient.

1.6 The system shall include a minimum 7 inch LCD with context sensitive menus to facilitate productivity as well as minimize training requirements.

1.7 The system shall have minimum Four active probe Ports in a convenient, easy to access location to maximize the availability of needed probes.

2 Productivity

2.1 The system shall offer an extended field-of-view imaging that operates by sweeping a transducer over the anatomy of interest. This mode shall build the extended field-of-view in a real-time manner, showing the image as it builds.

2.2 System shall have image management features that store images by patient and include the ability to review images from different exam dates.

2.3 System shall support the ability to store digital data in, that allows to optimize imaging arameters such as B Gain, TGC, Color Gain, Dynamic Range, Speckle Reduction levels, Doppler Gain, Doppler Base Line on old Images & old loops recalled from the image archive.

2.4 System shall allow for live image and archive images side-by-side or quad display on a single monitor. This display shall allow any type of image – B-Mode, Color, or power Doppler on either side.

3 Workflow

3.1 The system shall implement a feature, which enables to help streamlining the workflow. In particular the system should automatically invoke the correct mode and imaging parameter and advance to the next step within the examination with a one-bottom operation.

4 Realtime 3D / 4D Imaging Capabilities

5 Elastography should be available in convex, Linear and whole body convex Probe.

6 Contrast Ultrasound Capability (CEUS) with Times Intensity Curve Graphs.

7 Blood flow visualization Technique /Mode should be available , which should be independent of velocity and angle that displays the Blood flow echoes in gray scale imaging, with different intensities according to reflectors Speed and Dynamics.

8 Data Processing.

8.1 The system shall allow for Post-Storage image manipulation to provide maximum image flexibility, review and productivity. It shall include the ability to change all following on recalled old Stored Images/Loops :

a Overall B-Mode gain, dynamic range and gray scale maps.

b Overall Doppler gain, base line shift, sweep speed and inverted spectral waveform.

c Anatomical M-Mode

8.2 The system shall provide a display zoom function on frozen images.

9 Scanning Parameters

9.1 The system should have minimum **65,000 digital system processing channels.**

9.2 The system shall possess the ability to control speckle through the use of a speckle reduction algorithm that enhances borders, reduces speckle artifact and improves detail and contract resolution in gray scale with compatibility in Color mode, 3D and side-by-side display. This feature shall have operator selectable settings and be

capable of displaying in side-by-side mode with non-speckle reduced image.

9.3 The system shall provide the ability to scan in the compound imaging mode with up to 9 lines on all linear and convex probes.

9.4 The system shall provide scan depths from a minimum of 2 cm to a maximum of at least 30 cm.

10 B-Mode / M-mode Imaging

The system shall provide the capability for coded tissue harmonic imaging on all offered transducers.

The system shall have an ―anatomical‖ M-Mode – allowing the M-Mode cursor to be adjustable in any plane and allow for accurate measurements.

11 Color flow/Power Doppler

12 Spectral Doppler (PW)

13 Measurements and Calculations

13.1 Measurements should be possible on frozen images as well as on images recalled from the image archive.

13.2 The system shall provide a comprehensive set of obstetrical and gynecologic calculations and vascular calculations with summary reports.

14 Image Archive and Networking

14.1 The device should store images onto an integrated DVD-R Multridrive and a USB port storage device.

14.2 The system shall include at least **500 GB hard drive** for large local storage capacity.

14.3 The device should store images in DICOM, JPG, WMV and AVI formats for maximum flexibility.

15 DICOM Connectivity

16 Transducers

a Convex, **with biopsy attachment.** Operating Frequency: 2 - 5 MHz

b Linear, **with biopsy attachment.** Operating Frequency: 5 – 10 MHz

c **TCD Sector probe.**

d Trans-vaginal Probe **with Biopsy attachment**, Frequency 3-11 MHz

e **3D / 4D Volume** Convex Probe (To be quoted as standard)

f **Pediatric micro convex probe for neurosonogram.**

17 Suitable UPS for a 60 minute backup **for whole system.**

18 **The system should be USFDA or European CE certified.**

19 System upgradability option should be available for Fusion/ Navigation. **It should also be upgradable to 3D endocavitary application.**

20 **Patient couch with 6 way movement and ergonomic operator chair.(Price to be quoted separately)**

21 **The bidder has to arrange for demonstration of the quoted model.**

Added Para:

DICOM Connectivity should be a standard feature with the hospital network and a standalone PC (Windows based) with suitable DICOM viewer to be supplied

Item No. 6

	Anesthesia Machine with Ventilator(High End)
	The Machine should have the following:
1	Should have pipelines attachment for oxygen , nitrous oxide and compressed air.
2	Should have yoke assembly for oxygen and nitrous oxide with pin index system.
3	Durable main switch to put the machine in the on or off position.
4	**There should be digital control and display for oxygen & electronic gas mixing.**
5	Should have safety features like :
a.	Should provide 25% or more of oxygen when an anaesthetic gaseous mixture is in used.
b.	**Should be provided with "pneumatic/ electronic" hypoxic guard.**
c.	Should have extra flow meters for oxygen only.
6	Should have oxygen flush with a flow rate of more than 35L/min.
7	**Should be able to hold two seletatec vaporizers (Isoflurane, Sevoflurane & Desflurane) simultaneously. Vapourizers should be maintenance free. Cost of vaporizers to be quoted separately. The anesthesia machine should provide desflurane compensation.**
8	Co2 absorber system with the following features :-
a.	Single/Double canister
b.	Autoclavable
c.	**Canister capacity of 0.8 kg or more.**
d.	It should be possible to bypass the canister if removed during clinical cases to change sodalime.
9	APL valve assembly and Bag mount should be conveniently placed.
10	Independent port for open circuit.
11	**Should be provided with one or more drawers.**
12	Machine should have a good quality handle and castors to move the
	machine with locking system.
13	The ventilator of the machine should have the following features:-
a.	Should be electronically controlled.
b.	Should be suitable for both pediatric , adult and new born.
c.	**It should have coloured screen.**
d.	Volume and pressure control mode of ventilations.
e.	Electronic peep
f.	Both SIMV and pressure support mode.
g.	Tidal volume range from 20ml to 1200 ml or more
h	Respiratory rate from 4 to 80 or more
i	**I:E ratio**
j	Display : Respiratory rate, peak airway pressure and PEEP
k	There should be no collection of water in the breathing system.
14	**Should have independent paramagnetic oxygen sensor for FiO2 monitor and flow sensor for spirometry.**
	sensor for spirometry.

15	**Should be able to display**
a.	**Pressure Vs time**
b.	**Volume /Flow Vs time**
16	**Should have battery backup of atleast 60 minutes**
17	Demonstration of the product is must for all the firm.
	The Monitor should have the following
1	A modular configurable patient monitor
2	**Should have atleast 17" or more TFT colour display with up to 12 waveforms at a time**
3	Should be touch screen
4	Should be able to measure the following parameters:
a.	**3 and 5 lead ECG with electrocautery & defibrillator filter with ST Segment & arrhythmia detection with analysis,**
b.	Respiration , SpO2 , temperature
c.	NIBP, 2 IBP , ETCO2
d.	Multi –Gas analysis with auto detection of all anesthetic agents
e.	Integrated BIS/entropy Monitoring.
f.	Upgradable to cardiac output (thermodilution) monitoring.
5	Should be able to automatically detect and calculate MAC of all anaesthetic gases.
6	Should be able to calculate and display FiO2.
7	Intelligent cooling system to keeps the unit running quiet during use.
8	Separate indicator lights for technical and physiological alarms.
9	Maximum BEEP tone should be loud enough to be audible from atleast a distance of 12 feet"s.
10	Should have graded audio and visual alarms for the following parameters:
a.	Blood pressure - High and Low
b.	SpO2 - High and Low
c.	Heart rate - High and Low
d.	Respiration - High and Low
e.	FiO2 - High and Low
11	**Trends – Upto 48 Hours or more, trend analysis, upto 24 hours full disclosure.**
12	Battery Back- up – Li-ion Battery of 1 hour or more.
1	**The quoted model should be European CE or US FDA approved**
2	**Bidder must ensure regular supply of medical grade Sodalime with rate quoted separately.**
	The machine should be supplied with the following accessories:
a.	ECG Cable – 2 nos
b.	Reusable SpO2 Sensors: 2 each for Adult, Pediatric & Neonatal.
c.	NIBP Cuff: 2 each for Adult, Pediatric & Neonatal.
d.	IBP Transducers: Disposable 10 nos.
e.	IBP Cable: 2 nos
f.	BIS Electrode: 10 nos
g.	ETCO2 Sample Line: 10 nos
h	Reusable autoclavable Breathing circuit: 2 nos each for Adult & pediatric

Item No. 7

	Ventilators high end
1	Should be touch screen.
2	**Screen should be minimum of 12" inch or more and integrated.**
3	Compressed air / oxygen driven.
4	Should have the following modes.
a	Volume and Pressure Controlled modes
b	SIMV (Pressure controlled and volume controlled) with pressure support
c	Spontaneous modes like CPAP / PEEP
d	Inverse Ratio ventilation
e	**Advanced mode like Pressure Regulated volume control mode and volume support mode.**
f	Airway Pressure Release ventilation
g	**Non-invasive ventilation.**
5	Should have the facility for following settings:
a	**Tidal Volume: Minimum 5ml and maximum of 1500 ml or more in Volume control**
b	PEEP upto 30 cmH2O or more
c	Pressure support upto 35 cmH2O
d	**Flow Pattern: Square, Decelerating**
e	Respiratory Rate upto 80 bpm or more
f	Inspiratory Plaetau upto 60% of Insporatory time
g	SIMV Rate upto 60 cycles/min
h	FlO2: 21% - 100%
i	Inspiratory and Expiratory flow and pressure Trigger Sensitivity
j	**Manual Cycle, Inspiratory Pause, Expiratory Pause .**
6	Should be able to monitor and measure the following parameters
	Tidal Volume
	Plaetau
	Mean Airway Pressure
	Peak Airway Pressure
	Intrinsic PEEP
	RSBI (Rapid Shallow Breathing Index)
	Resistance and Compliance
7	**In-line Nebuliser with capability of producing < 3 micron drug particle.**
8	Should have the facility to find (Lower inflection point) and UIP (Upper Inflection Point)
9	Compiled trend analysis at least for 24 hours for all measured parameters.
10	Should have the facility to record multiple loops for comparison
11	Should have facility to measure:
i	Pressure / Volume loops
ii	Flow/ volume loops

12	**Should display minimum 2 curves/graphs /loops simultaneously on the screen**
	Should have audio-visual alarms for the following parameters:
a	**Peak inspiratory pressure – High & Low**
b	FiO2 – high & low
c	Respiratory rate – high & low
d	Tidal volume – high & low
e	Minute volume – high & low
f	Apnea
g	Gas supply failure
13	Should have the facility for ETCO2 measurement
14	Should have battery backup of at least for 1 hour.
15	**Event log: 1000 Alarm History.**
16	Demonstration is must
17	Spares should be available for 10 years.
18	**Should be supplied with 2 nos Reusable Silicon adult the 1 no Pediatrics tubing"s and imported humidifier and 2 nos ultrasonic nebulizers chambers**
19	**Should be European CE or US F.D.A. approved**
20	**Ventilator should have external compressor, from the same manufacturer (Optional - price to be quoted separately).**
21	Expiratory valve/cassette should be autoclavable and supply 2 nos.
22	**Oxygen sensor should be paramagnetic and covered under warranty.**
23	**Should provide ET-tube leak compensation.**
24	**Compressor should be US-FDA or European CE approved.**
25	**Compressor, hinged arm and ventilator trolley should be from the same manufacturer.**

Item No. 8

Central station for ICU with 10 Bed Side Monitoring System (1+10)

&

Item No. 9

Central Station for ICCU with 8 Bed Side Monitoring system (1+8)

	High-end Monitor for ICU with CNS
1	**Advanced high end modular patient monitor having integrated non-invasive, invasive measurement & features suitable for neonate, pediatrics & adult patients.**
2	**Monitor must have bright, highly visible minimum 15" or more color TFT display with full touch screen facility.**
3	**Monitor must have the facility to display min 12 waveform or more, along with related numerical parameters on single screen.**

4	**Monitors must be able to monitor ECG, SpO2, NIBP, Respiration, dual temp, dual IBP, modular ETCO2 and minimally invasive Continuous Cardiac Output.**
5	**Monitor must be ready to connect for CO (Thermodilution), BIS/Entropy, NMT, ICP monitoring, three IBP, 4 ch EEG, module.**
6	**Monitor must have advanced arrhythmia detection and ST Analysis as standard feature.**
7	System must have minimum 24 hours review data including graphical and tabular trends, arrhythmia event recalls, alarms. Full disclosure for user selectable waveform, hemo and lung trends.
8	Monitor must have the time linked review function. Monitor must show the waveforms for the time when the arrhythmia occurred in case of arrhythmia recall.
9	**Monitor must have facility to display 12 lead ECG.**
10	Monitor should have ST segment calculations
11	Must have inbuilt rechargeable battery for minimum 1 hour operation.
12	Must have facility to hook up with network printer, at any point of time and able to take print any review data (Trends, Graphs, waveform full disclosure, arrhythmia recall etc.)
13	Monitor must be able to connect to central monitoring station and should use single network for all kind of networking with the central station or other hospital information system (HIS).
14	All Monitors should be able to communicate with each other and can display other patient monitor data without the need of central monitor.
15	**Monitor must be U.S. FDA or European CE approved.**
16	Each monitor to be supplied with following:
a	3 and 5 Lead ECG electrode cable 2 No. each
b	Adult, Pediatirc and neonate SpO2 probe – 2 No. each(Ear lobe probes for neonates)
c	NIBP cuffs for Adult, Pediatrics and neonates – 2 no each (of different sizes)
d	Temp Probe – 2 Nos. (skin & esophageal one each)
e	IBP connection cable – 03 Nos.
f	IBP Disposable Pressure Transducers – 10 Nos
g	**ETCO2 sample line: 10 nos (if applicable)**
31	price of following Optional items to be quote separately
32	**CNS of 21" LED to be provided with one laser printer and one 21" slave monitor. .The cabling has to be done by bidder in the ICU One CNS with 16 monitors**
	Added Para:-
1	**One module each for ECG, SpO2,NIBP, Respiration, dual temp, 2IBP,EtCO2 for each monitor(independent/dual)**
2	**Two Modules of minimally invasive CO monitor**
3	**Two modules of NMT, EEG and spirometer, BIS/Entropy**
4	**EtCO2 values should be should shown on main monitor screen.**
5	**the monitor should have monitor to monitor over view facility and data transfer over the network**

6	**web browsing facility to monitor each network monitor data through hospital LAN and through dial up facility from remote location.**
7	**monitor should be remote web viewing enable.**
8	**To provide suitable facility for sending and receiving DICOM compatible radiological images like Ultrasound, X-ray etc to and from monitoring network to and from HIS, RIS etc for integration of various information (Optional-Price to be quoted separately)**
9	**It should be possible to see data of other patient on the monitor in the same ICU and patients of other ICU's or the monitor by LAN cabling. The cabling should be done by the bidder.**
10	**Demonstration is must.**

Item No. 10

Multiparameter Monitor/Patient monitor - 5 Parameter/3 Parameter/Vital Sign Monitor

	The monitor should have:
	Modular monitor High – resolution colour TFT display of minimum 10" or more
	Should be able to monitor ECG, NIBP, 2 IBP, SpO2. Temperature and Respiration
	Plethysmograph with perfusion indicator (optional – price to be quoted separately)
	Monitor should monitor at least three channel
	24 Hrs. graphical / tabular trends
	NIBP trends memory should be at least 50 readings (tabular)
	Suitable for Adult / paediatric/neonate.
	Selectable Arrhythmia detection
	Should have inbuilt three channel recorder
	Must have Graded and Colour coded alarms
	User selectable screen formats and user – friendly menu driven functions.
	Battery backup for at least 3 Hrs.
	It should be European CE and US FDA Certified.
	Should be supplied with:
	One 3 lead ECG cable, Reusable SpO2(adult, paediatric ,neonate) sensor, NIBP cuffs (each for Adult ,child and neotate), IBP cable

Item No. 11

	Defibrillator
1	**Description of Function**
1.1	Defibrillator is required for reviving the heart functions by providing selected quantum of electrical shocks with facility for monitoring vital parameters.
2	**Operational Requirements**

2.1	Defibrillator should be Bi- Phasic, light weight and latest model
2.2	Should monitor vital parameters and display them
2.3	Should print the ECG on thermal recorders.
2.4	Should work on **both** Manual and Automated external defibrillation (AED) mode up to **200 J or more.**
2.5	Should be capable of doing synchronized & asynchronized cardioversion
2.6	Can be operated from mains as well as battery
2.7	Should have defibrillator testing facility
2.8	Demonstration of the equipment is a must.
3	**Technical Specifications**
3.1	Should be a Low Energy Biphasic defibrillator monitor with Recorder, having capability to arrest all arrhythmia within a maximum energy of **200 Joules.**
3.2	Should monitor ECG through paddles, pads and monitoring electrodes and Defibrillate through pads and paddles. Should have **Automatic or Manual Lead switching** to see patient ECG through paddles or leads
3.3	Should measure and compensate for chest impedance for a range of 25 to 125 ohms
3.4	Should have a built in 50mm strip printer/ thermal recorder
3.5	Should have charging time **of less than 6 seconds** for maximum energy. Charging indicator should be there.
3.6	Should have bright **LCD / TFT display** for viewing messages and ECG waveform of 4 seconds
3.7	Single Adult and pediatric paddles should be available. **Internal paddles should also be available and price to be quoted separately.**
3.8	Should have event summary facility for recording and printing at least 250 events and 50 waveforms. Patient data storage 90 mins of ECG and events.
3.9	Should have a battery capable of usage for at least 90minutes or 30 discharges.
3.10	Should be capable of printing Reports on Event summary, configuration, self-test, battery capacity etc
3.11	Should have facility for self-test/check before usage and set up function
3.12	Should have **SPO2** and **EtCO2** integrated facility.
3.13	Should be capable of delivering energy in increments of 1-2 joules up to 30J and increments of maximum 50J thereafter.
3.14	Should have user friendly 1,2,3 color coded operation.
3.15	Voice prompts on AED mode
3.16	Printing reports of events summary configuration/set test/ battery capacity
3.17	Optional noninvasive pacing/ transcutaneous pacing

4	**System Configuration Accessories, spares and consumablesSl Name**
4.1	Defibrillator -01
4.2	Paddles Adult/Paediatric (pair) -01
4.3	Paddles –Internal (pair) -01
4.4	Patient cable -02
4.5	ECG Rolls -50
4.6	Disposable pads-10 nos.
4.7	**Deleted**
4.8	Reusable SPO2 Finger Probe-Adult -02 Reusable SPO2 Paediatric Finger Probe - 02
4.9	Complete set of ECG Leads- 02
5	**Environmental factors**
5.1	The unit shall be capable of operating continuously in ambient temperature of 10 -400 C and relative humidity of 15-90%
5.2	The unit shall be capable of being stored continuously in ambient temperature of 0 -500 C and relative humidity of 15-90%
5.3	Shall meet IEC-60601-1-2: 2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.
6	**Power Supply**
6.1	Power input to be 220-240VAC, 50Hz
6.2	Resettable overcurrent breaker shall be fitted for Protection
7	**Standards, Safety and Training**
7.1	Should be **USFDA and European CE** approved product
7.2	Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements and IEC-60601-2-25 Safety of Electrocardiograms. (OR EQUIVALENT BIS Standard)
7.3	Should conform to international test protocols on exposure to shock forces and to vibration forces. The standard should be documented.
7.4	Should meet IEC 529 Level 3 (IP3X)(spraying water) for enclosure protection, water ingress.
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 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 factory.
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.
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.
8.8	Must submit user list and performance report within last 5 years from major hospitals

Item No. 12

	Patient Bed-I.C.U Beds(Advance)
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 by control panel** and adjustable for heights, trendelenburg etc. It should also be having radiotransluscent top for carrying out X-Ray at the bedside.
2.2	Demonstration of the system is a must
3	**Technical Specifications**
3.1	Should have four section mattress base
3.2	Should have X-Ray translucent back section made up of high pressure laminate.
3.3	Should have X-Ray cassette holder underneath the back section & should allow insertion of X-Ray cassette from **either side of the bed or from Head end.**
3.4	Base frame & support frame should be made up of **Epoxy powder coated MS or CRCA tubes** for long life & prevention from rusting.
3.5	Should have stepless electrical adjustment for the following :-
a.	Height: 450-840 mm **+/-10%**
b.	Back section: 0- 50 **degrees or more**
c.	Leg Section: 0-25 **degrees or more**
3.6	Should have step-less **pneumatic / electric adjustments** for Trendlenburg **(12 deg or more.)**; anti-trendlenburg **(12 deg or more)**
3.7	Should have a manual quick release mechanism for back section adjustment during emergency situation
3.8	Should be equipped with four articulated half-length tuck away side rails **with lock facility**
3.9	Should be equipped with large castors **(diameter atleast 125 mm)** with central braking and steering facility.

3.10	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.
3.11	Mattress should be fully Radiolucent for ease in performing portable X-Rays.
3.12	Should have bumpers at all four corners and place for fixing accessories
3.13	Dimensions of bed:
	Length: **2100 -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 perforated heavy gauge sheet
4.2	Heavy Gauge & total weight of Bed
4.3	Bed Ends, detachable: 01 pair
4.4	Articulated half-length tuck away side rails : 04 Nos.
4.5	IV Rods: **01 No.**
4.6	Mattress 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 -500 C and relative humidity of15-90%
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 180-270 V AC, 50-60 Hz as appropriate fitted with **Indian plug with rechargeable battery backup of at least one hour.**
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 **USFDA or European CE** 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 Equipment 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 equipment recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.
7.8	Comprehensive warranty for 2 years and provision of CMC for next 5 years.
8	**Documentation**

8.1	Certificate of Calibration and inspection from the factory
8.2	List of Equipment 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
8.5	Service manual in English
8.6	User manual in English
8.7	Must submit user list and performance report within last 5 years from major hospitals.

Item No. 13

Sl No.	High definition laparoscopy system with accessories		
	Technical Specification of Laparoscope		
	1 Description of Function		
	Laparoscope is used for minimally invasive surgery and comprises of telescope and associated instruments and units		
	2 Operational Requirements		
	All offered items should be from same manufacturer with USFDA or European CE approved products.		
	3 Technical Specifications		
	3.1 TELESCOPES		
	a) 5 mm forward oblique, 30 degree – 1 no		
	b) 10 mm forward oblique, 30 degree – 1 no		
	c) 10 mm straight forward 0 degree – 1 no		
	d) All telescope should have following:		
	Low risk of object bum		
	Colour coded for identification		
	Autoclavable		
	Fibreoptic light transmission incorporated		
	3.2 HAND INSTRUMENTS & OTHER ACCESSORIES		
1	Reusable Veress Pneumoperitoneum Needle-Spring loaded blunt stylet luer lock length 10/15cm/12cm - 4 each		
2	Reusable Trocar:- 5mm – Multifunctional , insuflation stopcock and threaded sleeves, pyramidal tip, length (10.5cm) ,Flapper valve - 4 nos		

3	Reusable Trocar:- 10/11mm & 12 mm-Multifunctional valve, insufflation stopcock and threaded sleeves, pyramidal tip, length (10.5cm) Flapper valve - 4 each		
4	Suction and Irrigation cannula-Size 5mm, length 36cm, used with suction and irrigation handle, size 10 mm also, Reusable suction irrigation tubing set, Multifunction suction irrigation handle with provision for using 5/10mm diameter auxiliary instruments - 2 each		
5	Grasping forceps curved - toothed 2x4 teeth-2 each-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility, size 10mm - 2 each(5 & 10mm)		
6	Grasping forceps straight- toothed 2x3 teeth-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility, size 10mm - 2 each(5 & 10 mm)		
7	Maryland forceps-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility - 2 nos		
8	Grasping forceps-Atraumatic-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility - 2nos		
9	Grasping forceps-Allis-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility - 2nos		
10	Grasping forceps Mixter-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility - 2nos		
11	Grasping forceps-plain dissection & Grasping-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility - 2nos		
12	Grasping forceps-Babcock-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility, size 10 mm - 2 each (5& 10mm)		
	Fan shaped retractor-Rotating, size 5mm, length 33-36cm, dismantling facility - 2nos		
	Hook Scissors-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility- 2nos		

	Rotating Metzenbaum Scissors-Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility - 2nos		
	Bipolar coagulating forceps-Size 5mm, length 33-36cm fenestrated- 2 nos		
	Bipolar coagulating forceps-Size 5mm, length 36cm, 3mm width of jaws -2 nos		
	High Frequency Cord-For 5mm & 10mm hand instruments with Monopolar Electrodes, spatula tip, needle electrode- 2 each		
	High Frequency Cord-For 5mm & 10mm hand instruments with Monopolar Electrodes, hook tip, knife electrode - 2 each		
	Knot pushers-Eye type, length 33-36cm,2 each for intra and extra corpal knotting		
	Needle holder coaxial type-5mm, tungsten tip, straight handle with ratchet, single moving jaw, length 33-36cm,2 with carbide insert tips for straight and curved needles		
	Clip Applicator-Medium -Size -Rotatable, Provision for locking the shaft conveniently, 10mm, compatible with clip LT 300, 2 quoted with adequate no. of spare clip		
	Clip Applicator- Large-Rotatable, Provision for locking the shaft conveniently, 10mm, compatible with clip LT 400, 2 quoted with adequate no. of spare clip		
	Hassan cone-Adaptable to 10mm trocar- 2nos		
	Blunt Obturator-For 11mm port-From 10/11 mm to 5mm & 5 to 3 mm - 2nos		
	Reducer-Size 5mm, length 33-36cm with pin for cautery - 2nos		
	L-Hook-Size 5mm, length 33-36cm with pin for cautery- 2nos		
	Spatula-Size 5mm, length 33-36cm with pin for cautery - 2nos		
	Fascia closure instrument-Size 2.8mm, length 17cm - 2nos		
	Washers-For 5 & 10 mm cannula and reducers - 100 each		
	Container System: Metal & Plastic-For Sterilization and storage of telescopes, hand instruments and other accessories. Different sizes - 3nos		
	Metzenbaum scissors-High performance with bipolar cautery - 2nos		

	Large operating scissors-With double action jaws (slightly curved) Rotatable 10mm diameter instruments with a working length of 33-36cm, dismantting facility - 2 nos		
	Assistant needle holder-5mm diameter instrumentations with a working length of atleast 33-36 cms with carbide insert tips for straight and curved needles. 2 for straight & curved needles with carbide insert tip		
	Disposable extraction bags		
	Injection and puncture canula-5 mm diameter, 33-36cms length with luer lock - 2 nos		
	Myoma screw-5 mm, 33-36 cms length, 10mm - 2 nos		
	Uterine Manipulator-LAVH, mobilization of uterus, indentification of vaginal fornices and sealing of vagina during hysterectomy.		
	CCL Vaginal extractor for LAVH Surgery		
	HF Needle electrode for splitting & coagulation insulated with connection pin for unipolar coagulation, working length – 31-33cm		
	Electronic morcillator-With cutting sleeve and protective sleeve along with spare knife (Fully autoclavable) can be from other make. It should be European CE or USFDA approved.		
	Morcellator with accessories-•		
	a. Electronic Drive unit with motor for use with morcellator		
	b. Morcellator tube serrated edge		
	c. Atraumatic trocar sleeve with pyramidal trocar 12mm		
	d. Claw forceps insert 2 x 3 teeth		
	e. Insulated sheath		
	f. Laproscopic Bag		
	g. Insulated handle with HF connection rotating with ratchet		
	42 High frequency monopolar cables-For above auxiliary instruments.		
	43 Hight frequency bipolar cables-For above auxillary instruments		
	44 Cleaning accessories-		
	a. Cotton carrier with thread		
	b. Cotton carrier with “U” shaped handle		
	c. Cleaning brush		
	d. Brush for cleaning jaws		
	e. Oil dropper		
	f. Wadding silver polish		
	g. Special lubricating oil		

	Note : Insulated outer sheath for all forceps and scissors		
	3.3 INSUFFLATOR		
	a) Fully automatic, electronically controlled gas fill		
	b) Flow rate of 20-30 litres per minute		
	c) Optical and acoustic warning signals in case of malfunction or excessive pressure		
	d) Connectible to medical gas pipeline		
	e) Control by keys on front panel		
	f) Clear and adjacent display of actual and preset flow rate, actual and preset pressure, gas consumed		
	g) Facility for filtering preheating of gas to body temperature		
	h) Facility for easy evacuation of smoke and mist		
	i) Memory for retention of previous pressure settings		
	j) Should include high pressure hose pin-index connection to smallbig cylinder with regulator, mains cord, silicone tubing set with luer lock, universal wrench and gas filter		
	3.4 CARBON DIOXIDE CYLINDER (type-B)		
	Large size cylinders with required regulators and connecting pipe to the insufflator (Type-B) – 2 nos		
	Gas tubing – 4		
	3.5 SUCTION-IRRIGATION UNIT		
	a) Pump for irrigation and suction		
	b) Maximum irrigation pressure 400 mm Hg		
	c) Suction pressure 0.75 bar		
	d) Control from control panel and/or foot pedal		
	e) Overflow protection on suction bottles		
	f) Accessories should include silicone tubings (2 nos), bacterial filter and bottles with cap		
	g) Irrigation suction flow rate should not be less than 2-5 L/min.		
	3.6 Sterilization/Disinfection Tray:		
	Disinfection/Sterilization tray with sieve, tray to lift Size: 27”X7”X5” (LXBXD) – 04 nos		
	3.7 **Formaline Chamber (Imported / Indian make)**		
	Formaline Chamber made of Virgin Acrylic 4.5mm thickness; size : 26”X8”X8” (LXBXH) with three tray, for sterilizing the laparascope& Hysterescope– 04 nos.		
	3.8 Suitable autoclavable plastic tray double tray for sterilization and storage for hand instruments of minimum 20 hand instruments preferably from OEM – 04 nos		
	3.9 CAMERA CONTROL UNIT & CAMERA HEAD		

	High definition Three chip Endoscopic camera system should have following features:		
	a) Digital HD technology		
	b) Progressive Scan		
	c) Camera control unit with three chip HD camera head having HD CCD chip of same aspect ratio of 16:9 and camera control unit should be able to produce following video output: DVI-D-2 nos, RGB-1 no. SDI – 1 no, S-VHS-2 nos, Composite Video – 1 no.		
	d) Three chip camera head should produce at head itself Pure Digital Signal with High Definition video (1920 * 1080P) with aspect ratio of CCD chip and video format of 16:9 or 16:10.		
	e) **System should have integerated Parafocal Optical Zoom (F should not be less than 12 mm and upper range should not be less than 30 mm, 2 X) to enhance image size and focus lens/rings to make it fully soakable and waterproof.**		
	f) System should be able to optimize all the settings and should be ready as soon as connected to camera control unit.		
	g) **Three Chip Camera control unit should be compatible with all the tree chip camera head and the company should provide standby facility within 48 hours of breakdown.**		
	h) Should be compatible for remote controlled operation of various features		
	i) Camera should be suitable for both Laparascope, Hysteroscope & Resectoscope		
	j) Should have Integrated gain, shutter, Enhancement, white balance with brightness control.		
	k) All camera functions to be controlled from camera head buttons and through key board at camera control unit to make it controllable from both sterile and non-sterile zone		
	l) Technical Specification :-		
	Image Sensor CCD Chip		
	Pixels 1920 x 1080		
	AGC Microprocessor controlled		
	Lens F14-30mm		
	Video Outputs Composite to BNC, Y/C to S-VHS, RGB to D Socket, HDTV-DVI-D, DV for recording		
	Input Key Board for Character Generator, 5 pole Din		
	3.10 High Definition Medical Grade Monitor		
	Two Wide Screen Monitors having the following		

	features:		
	a) HDTV Display in 16:10 HDTV format.		
	b) LCD/LED Crystal display		
	c) 26" High Resolution HD video Medical grade monitor – 2 nos		
	d) Resolution : 1920 x 1200 pixels		
	e) SDI/HD-SDI, Composite, S-Video RGB, DVI-D, VGA input, S-VHS – 2 nos, should also have same video output.		
	f) All required cables and connectors, which should be specified		
	g) TFT screen stand/Fixtures for connecting to pendant system/Ceiling Light Arm		
	h) Dustproof and Drip Water Protected		
	i) Fast response time: (5-12ms)		
	j) Number of colours: 16.8 million		
	k) Luminance: 500cd/m2, contrast ratio: 800:1		
	l) Vertical/Horizontal Viewing angle: 178 degree		
	3.11 LIGHT SOURCE		
	a) Xenon 300 watts		
	b) Manual and automatic adjustment of light intensity		
	c) Lamp life 500 hrs or more with at least one spare bulb		
	d) Display of lamp life/Bulb usage meter warning light		
	e) Standby mode with emergency lamp with visual indicator		
	f) Long (250 cm or more) fluid and fibre-optic light cable of diameter 4.8-5 mm		
	g) Light weight		
	h) Certified for National International safety standard normal		
	i) Should be able to produce colour temperature of 6000K.		
	3.12 VIDEO- CART (Should be from the same manufacturer)		
	a) Made of stainless steel / Epoxy coated metal		
	b) Portable on 4 antistatic dual castors, 2 with locking brakes		
	c) Required number of shelves for housing all the units of the set		
	d) Adjustable arm for fixation to either side for fixing the TFT monitor		
	e) One drawer unit with lock and key		
	f) Cable Manager		
	g) Power box with concealed wiring for providing electrical connections of proper rating to all the		

	units		
	3.13 IMAGE MANAGEMENT SYSTEM		
	a) Documentation system for digital storage of still images, video sequences and audio files.		
	b) Latest processor & HDD, which should be specified		
	c) Largest possible RAM, which Should be specified		
	d) Integrated DVD/CD writer with maximum speed which should be specified		
	e) Compact key board with drape		
	f) Cordless mouse		
	g) All types of connecting cables (BNC, DVI) and connectors, which should be specified		
	h) zwith all connectors and connection cables (BNC, S-VIDEO(Y/C), VGA), which should be specified		
	i) Separate mobile cart with lock and key for housing all the components of the image management system		
	j) It should be medical grade with touch screen monitor.		
	3.14 VIDEO COLOR PRINTER/ LASER COLOUR PRINTER		
	i. For endovision camera and multicolor systems existing in country.		
	ii. Large colour prints of video images with outstanding quality at least 4 different Images can be stored and printed on one sheet.		
	iii. Memories at least 4 rame, should be compatible with any monitor and should be Supplied with all connecting cables, satisfying international quality controls, safety Norms and power supply		
	4. Technical Specification for Hysterescope & Resectoscope		
	4.1 Description of Function		
	4.1.1 The resectoscope is a hysteroscope with a built in wire loop (or other shape device) that uses high-frequency electrical current to cut or coagulate tissue. It allows surgery inside the uterus an organ without having to make an incision.		
	4.1.2 Hysteroscopy uses a hysteroscope, which is a thin telescope that is inserted through the cervix into the uterus for examination		
	4.2 Operational Requirements		

	4.2.1 Complete unit with Resectoscope and Hysteroscope is required		
	4.3 Technical Specifications		
	A) HYSTEROSCOPE TELESCOPES STANDARD –		
	a. **Operating and Contact-Hysteroscope Forward-Oblique Full HD Telescope 30°, enlarged view, magnification 1x, 60x, diameter 4.0 mm, length 30 cm, autoclavable, fiber optic light transmission incorporated,- 1 no**		
	b. Forward-Oblique Telescope 30°, enlarged view, diameter 4.0 mm, length 30 cm, autoclavable, fiber optic light transmission incorporated - 1 no		
	B) Diagnostic Sheath with obturator 5mm diameter for the above 4 mm Hysteroscope telescopes(item A), with luer lock adapter		
	C)Continuous irrigation Operative Hysteroscope Sheath with obturator, outer and inner sheath for the above 4 mm hysteroscope telescope (item A) with channel for semi-rigid 5/8 fr size instruments. Should have facility for self-closing sealing system for precise irrigation.		
	D)Accessories		
	Hysteroscopy flexible / semi rigid instruments which should be adaptable to above sheath (item C), 5/8 fr. Diameter-		
	a. Foreign body grasping forceps.		
	b. Scissors-Scissors semi rigid, blunt tips, 5 Fr., length 33-36cm, single action jaws-2 nos		
	c. Scissors semi rigid, pointed jaws, 5 Fr., length 33-36cm, single action jaws, semi-rigid – 2 nos		
	d. Biopsy and Grasping forceps - Biopsy- and Grasping Forceps semi rigid, 5 Fr. , length 33-36cm, double action jaws -2 nos		
	e. Punch Forceps - Punch through Cutting semi rigid 5Fr, length 33-36cm- 2 nos		
	f. Tenaculam grasping forcep, semi rigid, size 5Fr, length 33-36cm 2 nos		
	g. Needle electrode and ball electode-Unipolar – high frequency cords of any make should be compatible with the above equipment		
	h. Bipolar vaporizing electrode – high frequency cords of any make should be compatible with the above equipment		
	i. Myoma fixation screw		
	j. Palpation probe		
	k. Polypectomy loop		

	E) Resectoscope including connecting tube for inflow and outflow for the above 4 mm hysteroscope telescope (item A)complete with continuous irrigation double sheath system, i.e outer flow and rotating inner tube with ceramic insulation distal tip,withobturator to be quoted along with working element and complete set of electrodes and 2 set of HF cables		
	All electrodes and Collin‟s knife to be bipolar/unipolar (as per requirement) to be quoted with appropriate cautery		
	ACCESSORIES FORRESECTOSCOPE FOR TCRE UNIPOLAR AND BI-POLAR SET		
	UNIPOLAR WORKING	Unipolar Working Element to be used with 26FR Resectoscope sheath: Motion by means of a spring. The thumb support is movable. Return of the loop is controlled by the thumb and in rest position the electrode should rest inside the operating sheath, to be used with 4mm hysteroscopy telescope	1 no
	CUTTING LOOP ELECTRODE FOR UNIPOLAR	Cutting loop 24 Fr	12 nos
	STRAIGHT CUTTING ELECTRODE FOR UNIPOLAR	Forward angle/straight cutting loop 24Fr	06 nos
	ROLLER COAGULATING ELECTRODE FOR UNIPOLAR	Roller electrode Cylindrical diameter 3mm, 24Fr	06 nos
	POINTED ELECTRODE FOR UNIPOLAR	Pointed electrode/Collines HF knife electrode, 24Fr	06 nos
	VAPOR CUTTING ELECTRODE UNIPOLAR	VAPOR CUTTING Electrode, 24Fr	06 nos
	SPIKE ELECTRODE UNIPOLAR	SPIKE Electrode 24Fr, size 3mm diameter, 24Fr	06 nos
	BIPOLAR WORKING ELEMENT SET	BIPOLAR Working Element to be used with 26Fr Resectoscope sheath: Motion by means of a spring. The thumb support is movable. Return of the loop is controlled by the thumb and in rest position the electrode should rest inside the operating sheath, to be used with 4mm hysteroscopy	01 no

		telescope. Should work in saline	
	BIPOLAR CUTTING LOOP	BIPOLAR Cutting loop 24 Fr should work in saline	6 no
	BIPOLAR CUTTING LOOP SMALL	Cutting Loop 24Fr, bipolar, small should work in saline	6 no
	BIPOLAR ELECTRODE POINTED	Coagulating Electrode 24Fr, bipolar, pointed should work in saline	6 no
	BIPOLAR ELECTRODE BALL END	Coagulating Electrode 24Fr, bipolar, ball end should work in saline	6 no
	BIPOLAR LOOP STRAIGHT	Cutting Loop 24Fr, bipolar, straight should work in saline	6 no
	RESECTOSCOPE SHEATH FOR UNIPOLAR	Continuous Flow Resectoscope Sheath 26 Fr., including connection tubes for in- and outflow, 2 LUER-lock adaptors, diameter 8 mm, oblique beak, fixed inner tube, with ceramic insulation, for use with working element	2 nos
	RESECTOSCOPE SHEATH FOR BIPOLAR	Continuous Flow Resectoscope Sheath 26 Fr., for Bi-Polar, including connection tubes for in- and outflow, 2 LUER-lock adaptors, diameter 8 mm, oblique beak, rotating inner tube, with ceramic insulation, for use with working element should work in saline	1 no
	OBTURATOR	Obturator, for use with the Resectoscope sheath.	2 nos
	FIBER OPTIC CABLE	Fiber Optic Light Cable, diameter 3.5 mm, length minimum 300 cm	2 nos

	F) **Hysteropump**		
	o Suction and irrigation system for use in hysteroscopy		
	o Irrigation function is performed by electric pump		
	o Maximum parameters for hysteroscopy are automatically set		
	o Precise presetting of volume and pressure of suction and irrigation parameters via touch keys.		
	o Adjacent display scales for set values and actual value to ensure safe monitoring.		
	o To be used with pressure regulated from 0 to 200mm of Hg, and flow rate regulated from 0-500ml/min. Suction regulated to 0 to -50kPa. Power supply 100-240 VAC, 50/60 Hz, Mains cord.		
	o Connecting cable 100 cm, one pedal foot switch.		
	o hysteroscopic tubing set		
	o Suction and irrigation tube, antireflex surface with two way stop cock for single hand control.		
	o Suction bottle 1.5 l and 5 l, sterilizable with bottle stand and bottle stand holder.		
	o Silicon Tubing Set for suction ,sterilizable.		
	o Hysteromet should be from same manufacturer as of Hysterescope		
	5. Electrocautery compatible with Laparascope, Hysterescope & Resectoscope		
	1• Should have unipolar cutting and coagulation as well as bipolar cutting and coagulation modes and have the facility of blending cutting and coagulation in different ratios and degree –soft, standard and/ or forced coagulation and spray coagulation		
	2• Arc controlled cutting with a pre selectable power of maximum of 200 watts in both unipolar and bipolar modes		
	3• Arc controlled coagulation with a pre selectable power of maximum of 120 watts in both unipolar and bipolar modes		
	4• Auto stop function with automatic power – off on completion of coagulation process.		
	5• Automatic start function for bi- polar coagulation. Should be operable both in hand and foot mode and should have hand control switch on the handle of the electrode. Bipolar application with irrigation with sodium chloride		
	6• Endoscopy mode with reduced voltage output for use with fine endoscopic electrodes.(microfunction)		

	7• It should have automatic read out panel to display current being used and actual output at distal tip of electrode, simple operation due to clearly arranged control with easy to read symbols		
	8• Should be compatible with under water operative procedures		
	9• It should have neutral electrode monitoring through a patient contact system.		
	10• It should have automatic high frequency power cut off by autocoagulation stop and autostart facility		
	11• The unit should have the facility of self-testing for trouble shooting		
	12• Visual and acoustic signs of HF activation by different colored indicators and different acoustic tones for cutting and coagulating		
	13• Unit should have safety monitoring circuit in event of malfunction for output monitoring. Neutral electrode connection .Automatic self-test and automatic power cutoff in event of malfunction. Ground leakage current(LF/HF) HF application time		
	14. Power supply 230VAC, 50/60 Hz.		
	15• The unit should be supplied with all standard accessories such as Electrode,Foot switch, Twin earth pad , bipolar forceps with Cord, Electrode Handle with switches , neutral plate, ball electrodes, Loop electrodes, variable output power for all types of currents		
	6 System Configuration Accessories, spares and consumables		
	6.1 System as specified		
	6.2 ACCESSORIES:- All Possible accessories of the equipments should be quoted. The specific accessory and its quantity will be decided on the basis of actual requirement		
	6.3 The system should be capable of accepting standard accessories of major international brands, which should be specified and for which suitable adaptor, if required, is to be provided		
	6.4 The codes and rates of all relevant individual accessories should be quoted separately with clear mention of period of validity of rates		
	6.5 Cautery system should be upgradable for vessel sealing device		
	7 Environmental factors		
	7.1 The unit shall be capable of being stored continuously in ambient temperature of 0-50 deg		

	C and relative humidity of 15-90%		
	7.2 The unit shall be capable of operating continuously in ambient temperature of 10-40deg C and relative humidity fo 15-90%		
	8 Power Supply		
	8.1 Power input to be 220-240VAC, 50Hz fitted with Indian power-plug		
	8.2 UPS for all systems of adequate rating for power supply to the system for 60 minutes.		
	9 Standards & Safety		
	9.1 Should be USFDA or European CE approved product		
	9.2 Manufacturer and Supplier should have ISO certification for quality standards		
	9.3 Electrical safety conforms to standards for electrical safety IEC 60601-1 General Requirements (or equivalent BIS Standard)		
	9.4 Shall meet internationally recognized standard for Electro Magenetic Compatibility (EMC) for electromedicalequipment : IEC-60601-1-2 :latest edition Or Equivalent BIS) or should comply with 89/366/EEC; EMC-directive as amended		
	9.5 Certified to be complaint with IEC 60601-2-2 Medical Electrical Equipment part 2-2: Particular requirements for the safety of equipment mentioned above – wherever applicable		
	10 Training		
	10.1 Comprehensive training for staff of user department and support services till familiarity with the system.		
	10.2 Training of two faculties from each consignee to be provided		
	11 Documentation		
	11.1 Product Literature in original along with that of accessories and indigenous components if any Photocopies/computer generated copies are not acceptable		
	11.2 Statement of compliance with tender specification with clear and unambiguous links to relevant portions of product literature/authentic document, which should be highlighted. Alternatives provide for noncompliant specification with justification must be described in details with supporting literature		
	11.3 Certificate of Compliance with standards and approvals stated above		
	11.4 Certificate of manufacturer/principal regarding authorization of service facility provided		

	by the supplier		
	11.5 List of important spare parts and accessories, which are required for maintenance and repair, with their part number and costing.		
	11.6 Commitment for supply of log book with check list for daily, weekly, monthly and quarterly preventive maintenance with contact details of service personnel along with the equipment. The job description of the hospital technician and company service engineer should be clearly spelt out in the log book		
	Added under Para 3.13: IMAGE MANAGEMENT SYSTEM:		
	k. Full HD recording, Medical grade computer and Monitor,Touch screen,Minimum 1 TB storage memory. It should have window based operating system,minimum Windows –XP.		
	Added Para: 3.14 iv. It should be CE approved.		

Item No. 14

	Arthroscope
	Specifications for Arthroscopy System
	Bidder will be responsibale for installation and commissioning of complete high definition arthroscopy system in modular theatres.
	Deleted
	Arthroscopy set complete with high definition camera HD monitor 19"Scope, general instruments shaversystem ,ACL reconstruction set arthroscopy pump system .
	Arthroscopy shoulder surgery set and arthroscopic ankle surgery set imaging system
	High definition camera system
	1.camera console 220 v with universal coupler & autocalavable camera head.
	2.Pure Digital signal with high definition video (1920*1080p native resolution)
	3.Resolution -2000 horizontal lines
	4.Automatic settings
	5. integrated flexible scope filter
	6.signal to noise ratio-70 Db
	7.progressive scan technology both on camera head & console
	8.brightness control on console&camera head
	9.aperture control on console
	10.Automatic Image Enhancer on console
	11.Optical zoom, autofocus & white balance on camera head

	12.integrated gain/shutter/enhancement with brightness control
	13.Two peripheral control on cemera head
	Xenon light source
	light source xenon, 300 watts lamp
	colour temperature 6000 k,
	universal jaw for accepting any make fiber optic cable adjustable light intensity from 0 to 100 percent
	one spare xenon lamps 300 watt
	fiber optic cable
	high definition monitor 19"
	High Definition monitor, screen minimum 19", resolution 1920 x 1080p.
	option for wall mounting and desktop in same unit.
	Arthroscope Set
	HD telescope 4mm , 30 Deg connect Arthroscope Sheath 5.9mm. Obturator for sheath 5.9mm obturator for sheath HOOK probe .
	Straight punch, cutting width 15 deg upbiter 30 deg left cutting 30 deg right .
	Cutting 90 deg left cutting 90 deg right cutting foriegnbody grasper with lock .
	Shaver system
	Electronic control unit -1No. **Foot control -1No.** **Handpiece Autoclave RPM 12000 – 1No.** **Microdriver with drilling,** **wiring and micro saw attachment – 1No.** **Full radius resector -2Nos.** **End cutter-2Nos.** **Aggressive cutter-2Nos.** **Meniscs cutter-2Nos.** **Oval Burr-2Nos.**
	ACL Reconstruction Set
	Tendonstripper-open ended and closed ,all sizes
	Thickneess tester
	Tibial guide
	Femoral offset guide 4,5,6,7 mm
	Reamers 4,5,6,7,8,9,10
	Length guage for measuring the tunnel
	Reaming wire
	Currette
	Rasp
	Graft preparation board specifications
	Graft board with gliding sliders for easy and single handed operation
	Suitable for singal bundle , double bundled and bone tendon bone BTB repairs
	Compatible with endobutton type fixation devices.
	Built in seizers for the graft(both soft tissue and bone)
	Provisions for specific graft tensions

	Graft clamp teeth for secuing graft for tensioning during preparations
	Arthroscopoe pump system with Tubing
	Pole mount/standalone console with autoclavable remote control
	Maximum flow rate of 2000 ml/minute with maximum pressure upto 150 mmHg
	Arthroscope Inflow/outflow tubing set
	High Definition Recording system
	Should be able to record Real time, Full HD(1920x1080p) digital video
	Stereo audio Input
	Disc Capacity of 500GB and recording system should be windows XP/ Higher base
	Touch screen(Min 10") Control panel interface
	Multi session disc recording capability supports file formats for images: Bitmap(BMP), JPEG, JPEG2K
	Video inputs minimum 2 nos S-video ,2 nos composite ,1 XGA(1024X768) and 1 High - Definition (1280X1024)
	Modular Cart(Imported) **• front-locking casters** **• lipped top holds monitor** **• four equipment shelves** **• open back for equipment access**
	Added Para: **The system should be European CE/ US FDA approved and all accessories should be from same manufacturer.**

Item No. 15

	Ortho Drill-Battery Operated
1	Drill and Reamer Hand Piece
	Should be single hand piece for both drilling and reaming
	Should have dual trigger for forward/ reverse and oscillation mode
	Minimum speed of 1200 rpm and should have variable speed control on the hand piece
	Drill Torque: 30 in lbs or more
	Ream Speed: 300 rpm or more
	Ream Torque: 140 – 150 in lbs.
	Should have DC brush less motor for low maintenance
	Should be Sterilizable by Steam Autoclave, ETO and in 10 minutes through a "Flash" autoclave
	Should have Tool less mounting of accessories
	Should have safety mode on the hand piece
	Adaptors for Drill/ Reamer Hand Piece
2	Jacobs Chuck and Key attachment (Drill Attachment)
3	Reamer attachment

4	K wire quick coupling
5	Tripple reamer quick coupling
6	**Quick coupling.**
7	Sagittal Saw Hand Piece
	Should have two speed controls with standard and fast mode.
	Blade mount should be adjustable to different angles movement adjustable in 8 Steps to 45 Degree.
	Should have Dc brush less motor
	Should he Sterilizable by Steam Autoclave, ETO and in 10 minutes through a „Flash" autoclave
	It should have maximum speed of 10,000 to 12000 CPM
8	Sagittal Saw Blades all sizes & lengths.
9	**Reciprocating Saw should be a separate hand piece with blades of below sizes with minimum 12000 CPM.** **Width 19.5 Length 86MM,** **CUTTING THICKNESS 1.27MM,** **WIDTH 12MM. LENGTH 80MM, CUTTING THICHNESS 0.9MM WIDTH 21MM.** **LENGTH 85MM, CUTTING THICHNESS 0.9MM ACL Blade WIDTH 9.50mm,** **LENGTH 25.50mm, CUTTING THICKNESS 0.60mm**
10	**Trinkle attachment**
11	ACL Blades: Width 9.5mm, Length- 25.5mm, Cutting Thickness- 0.6mm.
12	Mettal cutting
13	Burs for cement removal and sculpting.
14	Battery (4 nos):
	Should have Non Autoclavable Battery with life of 300 charging cycles
	Should have autoclavable Housing and Shield
	Should have Nickel Cadmium autoclavable Standard and Small Battery
15	Battery Charger
	220 volts charger
	Should have capability to identify the worn out battery
	Should charge four batteries at a time
	Should have an indicator to provide battery status for charging
	Added Para – 17 . The system should be European CE/ US FDA approved and all accessories should be from same manufacturer

Item No. 16

SI NO.	**Harmonic Scalpel/Ultrasonic cutting and Coagulation device**
	1 Description of Function
	1.1 Ultrasound is the basis for an efficient surgical instrument: the cuts and coagulates by using lower temperatures than those used by electrosurgery or lasers. Controls bleeding by coaptive coagulation at low temperatures ranging from 50ºC to 100ºC: vessels are coapted (tamponaded) and sealed by a protein coagulum. It should have a

facility of additional vessel sealing system attached in the same unit

2 Operational Requirements

2.1 The system is should be used for Laparoscopic & open Procedures which should operate at the same frequency.

3 Technical Specifications

1. Ultrasonic generator generating ultrasound frequency in between 35-70 KHz

2. Hand-piece with transducer & silicon cable

3. Capability of being operated by hand control or foot switch.

4. Single/Dual foot-switch attachment

5. Stand-by mode for better safety

6. System diagnostics and troubleshooting guide

7. Warning system for malfunctioning cable, probe etc (Audible/ Visual)

8. It should not interfere with other electromagnetic devices

9. It should have a horizontal/torsional vibration

Should be capable of sealing vessels atleast upto 5mm diameter

11. Should have different audible tone settings for different modes

4 System Configuration Accessories, spares and consumables

4.1 Accessories:1. Foot-switch with cable.

2. Cart to house the generator and accessories

Open surgery instruments – 2 Nos. Each

Coagulation shears – 5mm dia, 17cm long or more

Dissecting grasp 5mm for cogulation 17mm or more

Endoscopic surgery instruments – 2 Nos. each

a. Dissector Grasper 5mm diameter 30cm-45cm long

b. Curved Shear,5mm diameter,30cm- 45cms long

6. Any Other compatible Accessories has to be offered if any

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 USFDA/ European CE approved Model

7.3 Manufacturer should have ISO certification for quality standards

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

7.5 Instrument should be upgradeable in case of any technology advancement free of cost. Hand piece with transducer should be covered with 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 Equipment 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

8.5Compliance 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. The equipment should be available for demonstration in case required

8.6The equipment should be available for demonstration in case required

8.7 The equipment should have 95% uptime. If downtime exceeds 5 % in a calendar Year, Warranty will exceed for double the number of days.
Added Para:
Para: 3.2 Bidder has to give demonstration of the equipment if required.

Para: 4.2 Price to be quoted for each of the accessories & it should be valid for the entire warranty period.

Item No. 17

SI NO.	Operating Table –Electro hydraulic
	A. General operating table features:
	1. Full-length radio-translucent top.
	2. 4 or 5 sections tabletop, which should be made of a special scratch resistant, hardwearing and easy to clean material. Base column cover to be made of 100% stainless steel alloy and stainless steel.
	3. **Removable head and leg sections to suit different applications.**
	4. 100% Kidney Bridge position should be obtained without moving the patient, through remote Control by using extension/break function.
	5. Battery powered, with facility for connection to mains electricity for immediate use. Battery Exhaustion protection and low battery warning via an audible „beep"/display indicator should be available.
	6. Table should not have a thread/sharp edge for ensuring proper cleaning and user safety.
	7. Mattress should be of high quality that spans tabletop break for improved patient support. Its depth should be 50mm. Mattress must be Latex free.
	8. The robust handset should offer 8 controls namely Trend. /Reverse Trend, Lateral Tilt, Flexion/ Extension and Height functions.
	9. Brakes, 4nos Wheels
	10. Table should have a narrow T-shaped base allowing optimum access and greater stability.
	11. Table should have offset slim-line column, with S.S. Inverted telescopic covers, for superior imaging and access.
	12. It should have a stable construction with 4nos Wheels of the base with large twin-disk castors for easy motion and manoeuvring (base braking by locking the twin-disk castors at the head end via a central foot pedal/ Hand control)
	13. The table top should not be fitted with transverse members casting shadows on the X-ray images except for the release brackets for adjustment on either side.
	14. The Table should be operated by the following operating elements: corded hand control, Manual override panel with manual override facility.
	B. Electrical specification:
	Special-design, maintenance-free rechargeable batteries with capacity for about a week"s use in the operating room.
	Recharging of the batteries and supply of the operating table by means of a mains cord

	Nominal mains voltage (selectable) 220/230-240V AC via mains cord with inbuilt stabilizer
	C. Technical Data:
	Length : 2000-2100 mm
	Width : 550-600 mm
	Minimum height (without mattress) : 600± 50 mm
	Maximum height (without mattress): Minimum of 1050 mm
	Maximum lateral tilt: 20-30 deg. (either side)
	Trendelenburg: atleast 25deg
	Reverse Trendelenburg : atleast 25deg
	Head section adjustment : ±40-45 deg.
	Leg section adjustment: +10 deg; to -90 deg
	Break (extension) position : 200-220 deg
	Break (flexion) position : 110-130 deg
	Cranial & caudal traversing: 200-300 mm
	Back section adjustment: 40-80 deg
	Maximum patient weight : 250 kg or more
	Technical Specification-
	Accessories
	Arm board - 2
	Lithotomy leg holders “Geopel type” (adult and paediatric)-1set each
	Body strap- 3
	Anesthesia screen with clamps- 2
	Side supports with clamps – 2
	Knee crutches with clamps - 2
	Clamp, rotary- 4 pc
	Clamp, circular - 4 pc
	Accessories stand, mobile on castors- 1 pc
	Arm support, perplex -2 pc
	Clamp for locking X Ray cassette -1
	Accessories for operating in prone position
	The table should be US-FDA or European CE approved product
	For Electrical IEC 60101-1, medical/electrical equipment for safety, IEC 60601-2-46 for safety of OT tables and IEC 60601-1-2 for Electromagnetic compatibility

Item No. 18

SI No.	E.N.T. OPERATING MICROSCOPE & Video Camera Unit
	1. **Heavy Mobile floor stand with mechanical/Magnetic brakes and good counter weight balancing system and locking device.**
	2. All the cables should be inside the stand and microscope arm for protection.
	3. Motorized Zoom Magnification system with apochromatic optics

	4. Manual magnification changer, 1:6 ratio in 5 steps.(Max. magnification up to 18.5x or more)
	5. **Field of View 10 mm to 150 mm continuously variable.**
	6. **Objective lens working distance 200-500 mm, with multifocal objectives (200mm for otology, 300 mm for rhinology and 400mm)**
	7. **Tilt able Binocular tube up to 180 degree**
	8. Stereo co-observer Tube
	9. Facility for adjusting speed of the focusing motor to adapt for different magnification.
	10. Complete auto balance by single push button.
	11. Motorized zoom and focus control on Pair of handles and wireless foot Control.
	12. Microscope Head should be freely mobile to all the directions and can be maneuvered to laryngeal surgery.
	13. Xenon illumination for day light character with back-up illumination of Xenon lamp with power supply preferable inbuilt in sturdy floor stand.
	14. **Suitably mounted / Integrated Three chip HD camera**
	15. Minimum 20" HD video touch screen monitor compatible with camera, mounted on the microscope arm
	16. CD/ DVD recording device for documentation.
	17. Integrated HD digital video recording facility with appropriate video editing software.
	18. **Trolley to keep CD/DVD recording device etc.**
	19. One Spare Xenon bulb
	20. Microscope should be adaptable to Micromanipulator for LASER
	21. Any other accessory which is must for functioning of the equipment like continuous voltage stabilizer etc.
	22. Voltage 230, frequency 50-60 Hz
	23**All accessories except CVT should be from the same manufacturer and should be European CE / US FDA approved.**

Item No. 19

HEART LUNG MACHINE WITH ACCESSORIES

S.N. 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.

S.N. 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
c) Temperature Monitor with probes

d)Display of total volume of each infusion along with delivery time
4)Air- Oxygen Blender with hoses and Flow meter
5)Safety Devices –
a) Ultrasonic air sensor
b) Level Sensor

S.N. Technical Specifications

3.1

A. 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. Each individual roller pump should be capable of running independently on 220 V/50Hz ***or 24 V DC*** supply.
3. Should have a spill proof base.
4. The unit should be supplied with a battery backup for at least two pumps, all safety systems and accessories for a minimum of 30 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.
5. 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.
6. Individual pump heads should have display in digital –The total infusion volume in litres and delivery time, the flow rates in LPM and in RPM
7. Each Pump should have easy mechanism for occlusion setting for different thickness of tubes available in the market, 1/32" to 3/32".
8. Should have hand crank facility as a critical safety feature hand crank loading should be from top for faster access.
9. The Console should have a compact base mount for the entire pump heads together, with pole and handles.
10. Should have variable, changeable tubing holders in each pump head:1/4", 3/8", ½", 5/8" and double ¼".
11. Should have movable oxygenator holder.
12. Roller pump should have a self-diagnostic circuit with provision to detect and display critical alarm conditions.
13. Optional Pulsatile module which can be mounted on any of the blood pump.

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 B.. 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.
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 heat exchanger port 15 – 22 LPM; 480mmHg maximum pressure; Blanket 1.5 to 2.5 LPM at zero head.
8. Ice generation facility. 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.
9. Temperature probe module for the operating ranges of 0-50° C.
10. Six Temperature probes to fit in standard oxygenators (bubble / membrane)

3.7 C.MONITORS:

PRESSURE MONITOR: Facility to monitor one arterial line pressure and two cardioplegia line pressures (total 3); along with necessary pressure transducers, cables 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:

1. ***6/4 temperature*** displays for patient monitoring and for cardioplegia monitoring with digital display in Celsius with 6 necessary compatible temperature probes with 3 of them for nasal, rectal and esophageal use.
2. Temperature control module should have 2 chambers and have touch display.

3.8 D. 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.

3.9 E.SAFETY Monitoring DEVICES with:

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.
Should be able to provide both alert and alarm for audible and visual alarms or low blood level alarm
Safety monitor should have optional capability for computer interface to retrieve perfusion data

3.10 **ACCESSORIES**

1. Ten adult and ten pediatric reusable blankets to be provided with each unit.
2. Temperature probes for adult and pediatric patient to be provided with each unit.
3. Water flow tubes for the heating cooling unit of heart lung machine should be supplied for all the available ports.

SL	System configuration accessories, spares and consumables	
4.1	Heart Lung Machine as per specification	-01
4.2	Remote Control module for Temperature Control Monitor	
4.3	Instrument tray with mounting arm	

4.4 Machine cover

4.5 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.

S.N. 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 -50^0 C and relative humidity of 15-90%

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

S.N. Power supply

6.1 Power input to be 220-240VAC, 50Hz,/440 V 3 Phase as appropriate fitted with special imported plug dedicated to the unit.

6.2 Resettable overcurrent breaker shall be fitted for protection

6.3 Suitable Servo controlled Stabilizer/CVT

S.N. Standards ,safety and training

7.1 Should be US FDA or European CE approved product

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

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

7.4 Manufacturer should have ISO certification for quality standards.

S.N. 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.

8.4 Certificate of calibration and inspection from factory.

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 Equipment available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service/technical manual.

Item No. 20

Automated Immunochemistry analyzer/Fully Automated Immunostainer

1. Fully Automated complete walk away slide stainer with option of delay start of IHC (ISH & FITC optional).
2. Compatibility for paraffin (dewaxed), and frozen sections as well as cytology smears.

3. Should be capable of running more than 4 staining protocols at one time.
4. Should have throughput of at least 30 slides at a time.
5. Antibody & micro reagent consumption per slide should not be more than 100 µl.
6. The system should have built in Antigen Retrieval System.
7. Should have a slide labeling system. (Bar code reader/Writer).
8. Should have facility of individual programming for each slide with any protocol.
9. Should have humidity and temperature regulation for operation between 40C – 100C and 10-90% humidity.
10. Should have Audio and visual alarm.
11. Should have Label Sensors for buffers.
12. Should be compatible for use with standardized protocols or user defined protocols.
13. Should come with compatible computer, software and laser printer.
14. The software should be upgradable.
15. UPS back up for at least 1 hour.
16. In case of longer interval, memory should restart at the point of stoppage.
17. Should come with at least one year supply (minimum for 3000 slides) of all reagents other than primary antibodies.
18. 5 years warranty and 5 years CMC including the accessories.
19. All installation/ service reports are to be attached.
20. Demonstration if required.
21. It should perform all process automatically from baking to counterstain.
22. Totally hands free day or night with option of delay start.
23. Antibody menu of more than 20 primary antibodies at one time.
24. Minimum antibody dispersion of 100ul to max. of 600 ul.
25. FDA/CE approved.
26. The stainer should be flexible to permit simultaneous processing of slide racks using different staining protocols.
27. The stainer should have roblic ID imager to identify slides & reagents loaded in processing module.
28. The stainer should have optical character recognition.
29. The equipment should be LAN/HIS compatible.
30. Complete IHC & tissue markers required.
31. Training to be provided to 2 Doctors/2 paramedical staff (teachers).
32. Dust free environment (air conditioner) required.

Item No. 21

Immunophenotyping Machine/Flowcytometer

1. Should have simultaneous minimum 06 fluorescent (6 color) parameters analysis plus forward & side scatter. For each parameter the flow cytometer should be capable of measuring area, height and width.

2. Should be equipped 2 solid state Laser (Blue 488nm & Red 633-640 nm). Power of lasers: Blue laser: 20mW or higher and Red laser 15mW or higher

3. Lasers should be fix/factory aligned without the need for onsite alignment.

4. Optical filters should be easily changeable by user without having to call service engineers

5. The flow cytometer should have high quality quartz flow cell.

6. Must have Compensation capability on-line as well as post-acquisition, between all fluorescence channels manually and through auto compensation.

7. The equipment should have digital signal processing with dynamic range of at least 18 bit data acquisition or more in order to get the clear resolution of populations

8. Events per second: 10,000 or more

9. Sample carry over rate must be $\leq 0.1\%$.

10. Must have Bar Code reader (inbuilt or external) for easy sample tracking, ID etc. and for complete automation

11. The Instrument should have bio-hazard containment facility for probe washing.

12. System should have on-site facility for 8 colour upgrade for future parameter extension

13. Software: PC controlled Windows based software (System should come with all required acquisition/analysis software) with PC of Min. 4 GB RAM, 1TB Hard Disk, 20" LCD/TFT Monitor with 3rd generation i5 processor with compatible configuration with Coloured LCD Monitor.

14. System should be IVD for clinical patient sample use & reporting purpose.

15. Starter Kit for 200Tests (Including Sheath Fluid, Cleaning reagents, Tubes, Calibrators & controls)

16. Clinical Antibodies for 100 Tests with below panel :-

17. Fluorochrome labelled Antibodies for

    Acute leukemias,chronic lymphoproliferative disorders,Multiple Myeloma
    CD 45,CD34,Tdt,HLADR,CD19, CD 22, CD 10, CD 79a,cyto CD3, CD 2, CD 5, CD 7, CD 4, CD 8,CD123,antiMPO,CD 13, CD 33, CD 117, CD 64, CD 14, cyto CD41, cyto CD 61,, cyto CD 42, CD38, CD 138, CD23, CD 20,SmIg,FMC7, CD 79b, CD 5,ZAP70,CD38,10, CD 11c, CD 25, CD 103,
18. Should be supplied with Color Laser Printer, five star rating 1.5Ton split Air Conditioner, Online UPS with batteries for one hour battery back-up.

19. Warranty for at least two years (including on laser) : (CMC for five years Should be quoted post warranty, which should include complete equipment parts, computer hardware and software, color laser printer, A.C., UPS including the batteries)

20. Quoted company should have direct Service/Application Support structure in India for installation, basic & advance training (should have their application support lab in India). Also quote service support structure & performance certificate & user lists from other customers in India.

21. Training to be provided to Two Doctors/2 Paramedical Staff (Technician) for a period of at least 8 weeks.

Item No. 22

Automated Karyotyping And FISH Software :

Required Specifications	
Microscope Stand:	Microscope stand with LED light intensity indicator, 12V100watt Halogen lamp, at least 8 Position Fluorescence filter turret, built in blue & ND filters.

Observation Tube:	Trinocular Observation tube with inclination angle 30 degree with 22mm field of view. Observation of 100% light path in the camera as well as in the observation tube. Facility of 20% /80% to eye and camera should also be available.
Nosepiece	Sextuple DIC upgradable nosepiece.
Condenser	Achromat Swing out Condenser
Eyepieces	Paired Widefield Eyepieces of 10X with minimum field of view of 22mm or better. Both sides focusable & adjustable diopter setting.
Illumination:	12V 100W transmitted Halogen illumination
Objectives	Plan Achromat 4X objective. Plan Fluorite/Semi Apochromat 10X Objective. Plan Fluorite/Semi Apochromat Apochromat 20X Objective. Plan Fluorite /Semi Apochromat 40X/0.75 Objective Plan Apochromat 100X/1.40 Objective
Stage	X-Y Mechnical Stage with facility of handling two slides at a time.
Fluorescence Attachment:	It should have at least 8 positions or better built in turret for mounting different filter cubes.
Fluorescence Illumination	High Intensity Mercury /Metal Halide Illumination 130W/120W respectively with minimum 1500/2000hrs life.
Fluorescence Filters	Complete fluorescence filter set for FISH Applications (a) Single filter for DAPI (b) Single filter for FITC, (c) Single filter TRITC, (d) Dual filter FOR (FITC/TRITC), and (e) Triple filter FOR (DAPI / FITC/ TRITC. All the filters should be narrow band pass filters.
Monochrome Cooled CCD Camera	Digital Monochrome CCD Camera Sensor, 2/3 "C-Mount Based. Resolution 1392x1040 pixels with Pixel size of 6.45um X6,45um. Interline Progressive scan frame transfer CCD with speed of up to 17 Frames per second. Gigabit Ethernet. Signal to noise ratio (SNR) >65db.
Softwares for Cytogenetics Applications	• **Database Management Software** – A modern paperless laboratory design management software. Manage data, compare chromosomes and produce comprehensive reports to ensure optimal chromosomal analysis statistical analysis and cross-case comparison of all the data. As a powerful search tool to filter specific cases and cells by any field and/or subtext. A flexible image gallery accommodates viewing of all case images. • **Software for Karyotyping analysis** - Advanced automation offering background uniformity correction, automatic segmentation of touching chromosomes, optimized image enhancement, contrast and band sharpness, An all-in-one multi-function tool that eliminates the need for switching between other functions. • Ideogram for all the chromosomes simultaneously. • Intensity profile for all the chromosomes simultaneously. • Fully customizable report format as per user's choice for related patient and lab data.

	• **FISH Software –** Automated Multi-layer Imaging Automatic Image exposure and enhancement, together with the auto-conversion of image sequences at various focal planes (3D Z- Stacking). Automatic background, contrast, brightness and sharpness adjustments, to enable optimal display of the faintest signals in a few seconds. Ability for full karyotyping support with unique band enhancement and signal sharpening. Integrated quantitative signal and objective analysis module. Cell or object segmentation, followed by morphology and intensity analysis to extract the exact data required. • **mCounter –** Counting by intuitive use of the mouse and keyboard replaces existing lab counters and enables to easily spot count for numerical changes, or classify cells according to their signal pattern, instantly providing statistics for customized reports.
Workstation	Compatible latest branded computer with at least 4GB RAM, 1TB HDD, Quad Core/ latest high speed processor, 22 inch TFT /LCD screen, Color Laser printer, Compatible online UPS with 30 minutes backup to support the entire system.
Secondary Hard Disk	Internal Secondary Hard Disk capable or mirroring and backing up Data
Compliance	Point wise technical compliance statement to be attached.
Power Supply	For standard Indian conditions
	5 Years comprehensive warranty and 5 years Comprehensive Maintenance Contract including all accessories
	Demonstration if required.

Points Added:
Metaphase finder to be provided.

Suggestions:
Before this upright microscope is installed, the basic infrastructure for cell culture and separation of chromosomes is mandatory. For that the following instruments are required.

1.Laminar flow, 2.Autoclave, 3.Magnetic stirrer, 4. Centrifuge with Max speed 5000 rpm, 5. Incubator, 6. Refrigerator, 7. Media and 8. Filters.

Item No. 23

Complete Cath Lab

Latest state of the art, single plane floor / ceiling mounted C-arm/G-arm Cardiovascular Angiography system with flat detector technology digital imaging system for diagnostic procedures and interventional cardiovascular procedures, valvuloplasty and vascular Angiography, online DSA and cardiovascular electrophysiology.

1.0 C-Arm /G Arm Multi-directional floor/ceiling mounted

1.1 All movements should be motorized with C-Arm angulations of minimum RAO/LAO +110 deg. / -110 deg. CRAN/CAUD +45 deg. At head end position. With 20 deg. / sec. or more speed for LAO/RAO and 15 deg./sec or more speed for CRAN/CAUD.

1.2 The system for user defined 50 programmed position of the C-arm.

1.3 Manual/motorized parking of C-Arm in case of catastrophe for resuscitating the patient

1.4 Motorized peripheral position for peripheral and vascular intervention should be available It should be possible to position the C-arm on the left side as well as on the right side of the patient.

1.5 The C arm should have auto collision protection with patient, monitors and the table.

1.6. It should be possible to have head to Toe coverage without patient repositioning.

2.0 Table

2.1 Floating/Floor mounted with carbon fiber tabletop with easy patient transport capability

2.2 Accessories for table should include head fixing aids, mattress, radiolucent carbon fiber arm support, catheterization arm support for radial angiography, drip stand, peripheral filer set.

2.3 Maximum patient weight = 150 kgs or higher with additional weight for atleast 100 kgs during resuscitation

2.4 It should have rotating facility

3.0 X-Ray Generator:

3.1 100 KW or more compatible with high resolution imaging

4.0 X-Ray Tube:

4.1 X-Ray tube should be with fine focal spot (small & large) with high cooling rate to ensure continuous operation, capable of pulsed fluoroscopy on both focal spots. The large focus power output should be 80kW or more. The Pulse Flouroscopy should be offered with pulse rate of 10 frame /sec to 30 frames/sec.

4.2 The X-Ray tube should have Anode heat storage capacity of at least 2.0 MHU or more to run continuously for 6-8 hours without shutting off.

5.0 Radiation protection:

5.1 The system should have integrated computer controlled (preferably automatic) X-Ray Beam filtering with copper filters of various size from 0.2 mm to 0.9 mm. Please list the special filters available.

5.2 The system should have positioning of collimator blades without radiation.

5.3 The system should have monitoring and display of X-ray dose during the patient examination. It should be possible to create a DICOM based dose report of the patient.

5.4 System should meet all National & International safety standards & comply with BARC & AERB guidelines.

6.0 Digital imaging System:

6.1 A flat detector with a diagonal size of at least 24 cm. Please mention pixel size. The smaller pixel size will be preferred.

6.2 Digital system with acquisition and processing in 1024xl024 matrix at 25/30 fps with 10/12 bit digitization

6.3 Image storage capacity of at least 50.000 images in 1024 x 1024 matrix at 10/12 bits on the main system disk

6.4 System should have capability of ECG display on the live image monitor and archive the ECG display along with angio images on CD, during the acquisition.

6.5 System should have on-line & off-line validated coronary analysis and ventricle analysis program. The software should have Auto calibration facility for stenosis measurement with geometrical and densitometry calculations. The analysis should be possible from table side in the examination room and from the control room.

6.6 The system should have full table side control operation with complete acquisition and post processing capabilities.

6.7 The system should have on-line DSA capabilities in 1024 x 1024 matrix with acquisition frame rate of 1 frame/sec to 6 frames/sec.

6.8 The system should have facility for storage of fluoro loop scene of at least 10 seconds.

6.9 The system should be quoted with 3D modeling/analysis of coronary arteries.

6.10 The latest complete software and hardware for visualizing stent with extra high-resolution from table side control.

6.11 It should be possible to overlay live fluoro image on reference image on live monitor with fade in fade out .

6.12 Angle and distance measurement facility should be available

6.13 It should have parallel line display cum medical grade monitor in doctors' rooms

7.0 **Monitors / Display** :

7.1 The monitor display system in examination room should be ceiling suspended and it should be possible to position it on the left or right side of patient table. The monitor suspension system should have facility to place 6 monitors. The system should have six medical grade high resolution TFT/LCD at least 18 inch monitors to display live and reference images, one for patient hemodynamic monitoring, one for EP tracing, one for 3D image display and one for IVUS imaging .

7.2 Two high resolution TFT/LCD monitors for post-processing and reporting in the control room

7.3 One colour monitor for 3D image viewing/processing in control room.

8.0 Digital Archiving

8.1 Separate system for recording images on DVD/ CD_R with DICOM Viewer in DICOM 3 format with ≥1 TB capacity of hard disc.

8.2 Image transfer from digital system in background mode without affecting the system operation.

8.3 USB interface to copy images to memory disk/external hard disk

9.0 3D Acquisition and Cross-Sectional Imaging :

- The 3D Acquisition should offer :
    - 3D Reconstruction and visualization in real time of volume in volume rendering technique (VRT).
    - MPR & MIP
    - It should be possible to create 3D image of left atrium of heart. It should be possible to overlay line fluro image on this 3D image of left atrium for catheter guidance in EP procedure
    - The facility should offer auto segmentation of ventricles / vessels of the entire heart(especially the left atrium with visualization of the pulmonary veins) in automatically performed one step

10.0 **CATHLAB RECORDING SYSTEM**

10.1 The following features should be available in the recorder

- 12 Lead ECG Amplifier with floating input
- At least 2 pressures with floating inputs
- Time and amplitude measurement with electronic calipers
- Laser Printer with minimum 16 MB memory with minimum 1200 dpi

10.2 The patient connection box should be easy to install at the patient table in the examination room

10.3 18" color wave form monitor with programmable layout and digital monitoring readout – Two
10.4 A 18" remote colour wave form monitor, to be mounted in the examination room.
10.5 ECG cables and reusable pressure transducers - 2 each
10.6 software should be provided for off line hemodynamic calculations such as cardiac output, gradients and shunt estimations.

11.0 State of art Intra-aortic balloon pump(IABP) system: imported model with following specification(1 No)

A. Pneumatics Drive system: Compressor
Counter pulsation rate: 40-200 pulsations per minute
B. 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 its variations, without any user intervention.
C. Should be able to trigger on 7 mm Hg of Pulse pressure when used in Pressure Trigger mode.
D. 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.
E. Should have Peripheral Vascular Doppler for detecting limb ischemia, which is attached to the main equipment.

Each System should be supplied with the following:

1. ECG cable with Refillable Helium cylinder compatible with the IABP system Qty :3 Nos
2. Intra-Aortic Balloon Catheter for Adults, Size: 40 cc Qty : 2 Nos
3. Intra-Aortic Balloon Catheter for Adults, Size: 30 cc Qty : 2 Nos
4. Intra-Aortic Balloon Catheter for Pediatrics, Size: 12 cc Qty : 2 No
5. Intra-Aortic Balloon Catheter for Pediatrics, Size: 10 cc Qty : 2 No
6. Reusable Invasive Blood pressure transducer system with pressure flush device system. Qty : 2 Nos.

12.0 **ELECTROPHYSIOLOGY LABORATORY SYSTEM**

Components of an EP lab
(i) EP recording system
(ii) Computerized Stimulator
(iii) RF ablator generator.

EP Recording System:

1. Minimum of 40 bipolar Intracardiac Channels:
2. Digital Amplifier with minimum 32-Bit A/D converter with 2 kHz resolution
3. Review software which can be loaded on any Laptop.
4. Should be CE /US FDA approved.
5. Should have:

- Holter window
- 3 LCD monitors with 1600 x 1200 resolution(in addition to hemodynamic recorder)
- 12 lead Surface ECG channels with 4 pressure channels, 4 analog inputs
- Dual imaging window to allow saving and retrieval of Still & avi fluoro images with corresponding electro grams

6. Should be able to interface with all available generators in the market including RF and Cryo.
7. Should be compatible with all 3D mapping system like Ensite and Carto.
8. Upgradeable Modular design.

EP Stimulator:

1.) Standalone computerized stimulator with 14 inch LCD facility.

3.) Should have a minimum of 9 pre-programmed protocols and 10 user defined protocol & upto 6 extra stimuli.

RF Ablator Generator:

1. Power - Minimum 130 watt output
2. Compatibility - Thermistor & Thermocouple.
3. Should have facility of sequential ablation of upto 4 electrodes.
4. Compatibility with Irrigation Pump
5. Ablation catheters should also be included.

Accessories for ELECTROPHYSIOLOGY LABORATORY SYSTEM : Essential

1. 21" Two high resolution slim LCD monitors.
2. Laser jet printer
3. Cart with castor wheels.

(The company should arrange for adequate training of the technician)

13.0 HEMOXIMETER

Hemoximeter for measuring Hb and oxygen saturation during cardiac catheterization complete with all accessories like rinse solution, calibration solution etc for at least one year.

14.0 Defibrillator cum monitor.

Biphasic Defibrillator cum Multi Parameter monitor for adult and pediatric usage with module to monitor ECG, HR,RR, PULSE, OXIMETRY & NONIVASIVE BP.
Two of approved and reputed make - One of these for the intervention room and one for the recovery room. One of them should have external pacing facility.

15.0 ACT machine One no. with one set of Cartridge

16.0 Suction apparatus mounted on stand - One

17.0 Pulse oxymeter portable – One

18.0 Anesthesia machine-one state of the art, 2 gas system with fully loaded ventilator assembly. Two vaporizers will be required. Complete anesthesia trolley with castor lackable wheels. Should be usable for neonate, child, and adult patients. Oxygen & Nitrous oxide cylinder along with each machine – One. Should be CE / US FDA Approved.

19.0 **UPS**: Suitable online UPS with 30 min. battery backup for complete Cath Lab including cine and fluoroscopy. Emergency lighting should also be on UPS

20.0 **ACCESSORIES** to be supplied :

A. State of the art High Pressure Injector – One
B. Ceiling suspended radiation protection - 1 no. (as per international radiation protection system)
C. Table mounted radiation protection - 1 no. (as per international radiation protection system)
D. Integrated two way communication system between control room and examination room.
E. One Laser Network Printer of high resolution (at least 1200 dots per inch) with minimum 128MB memory and 1200 dpi should also be offered for high quality image printing .

21.0 Environmental factors

A. The unit shall be capable of being stored continuously in ambient temperature of 0 – 50 deg C and relative humidity of 15-90%
B. should meet General Requirements of Safety for Electromagnetic Compatibility.
C. 1. The chosen supplier would be asked to undertake a turnkey Project wherein necessarycivil work modifications like False Ceiling, Wall Tiling, Anti Static Flooring and

finishingworks would be provided by them under the supervision of the support staff e.g. CPWD(Civil)/electrical etc.

2. The supplier would also provide the Scrub area and the Catheter wash area.

3. The supplier also would provide the necessary furniture like tables, computer chairs,cupboards, catheter hang wall mounts etc.

D. 1. Appropriate Air-conditioning would be provided by the supplier and maintainedthroughout the Warranty period of the cath-lab.

2. The entire Cath-Lab including the Air Conditioning should be connected to theGenerator of the hospital.

E. Proper shielding should have to be done by the supplier to minimize radiation leakage as per AERB and BARC regulations.

22. Power Supply

A. Power input to be 220-240VAC(Single Phase), /400-440 V (3 Phase)/ 50Hz as appropriate fitted with Indian plug

B. Reset table over current breaker shall be fitted for protection

D. Online UPS of suitable rating conforming to shall be supplied for the entire cath lab system including X-ray generation with a minimum power back up of

E. The Power requirements involve laying a 125 KVA Cable from the substation to the Cath-Lab and making a Bus-Bar and a Power Distribution Board and
this would be done by the supplier as a turnkey project under the supervision
of the support staffs e.g. PWD (Elect)

23.0 SITE MODIFICATION

Site modification on turnkey basis as per turnkey details enclosed.

24.0 Warranty

a. Comprehensive warranty for 5 years for the complete system and third party item including x-ray tube, IABP, Electrophysiology system Intra aortic balloon pump(IABP) system and other supplied accessories like ACT machine, High Pressure Injector, hemoximeter, anaesthesia machine etc

b. All steps to be taken to maintain 95% uptake time of the Equipment falling which penalty clause would be imposed.

25. Standards, Safety and Training

A. Main Cathlab should be USFDA approved product. All other accessories should be USFDA/European CE approved.

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

C. Manufacturer should have ISO certification for quality standards.

D. Shall comply with AERB and BARC guidelines.

26. **Documentation**

A. User manual in English

B. Service manual in English

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

D. Certificate of Calibration and inspection from the factory

E. 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.

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

27. **Other requirements**

A.Model should be latest generation.

B. should have local service facility.
C. comprehensive warranty of the main cath lab system and third party items for 5 years and CMC of the main cath lab system and third party items for next five years to be provided by the cathlab unit supplier
D. Availability of spares to be ensured for minimum 10 years period
E. The company should provide LAN facility that will provide online as well as off line analysis of cathlab procedure from other cathlab and from office rooms of three consultants
F. Demonstration is must before approval and also working demonstration after installation.
28. Bidder should give undertaking to shift complete cathlab with accessories to other site in the institute, if required at a mutually agreed terms between institute and successful bidder.

ANNEXURE-I SITE MODIFICATION TURNKEY PROJECT FLAT PANEL SIGNLE PLANE CARDIAC CATH-LAB ALONG WITH ACCESSORIES

1.	Supplier would undertake a Turnkey Project for site modification and Installation of Cath Lab as per AERB/BARC regulations after AERB/BARC and/or other concerned authority's approval. A typical layout plan (with dimensions) showing the placement of all specified hardware, including camera, consoles, data processing workstation, collimator, cart(s) and any imaging table(s) and rails along with details of computer furniture, conduiting and earthing etc. would have to be provided to the hospital/appropriate authority and approval taken before starting the modifications/renovations.
	Civil work: In the civil work following works are to be undertaken
2.	Modifications / Renovations in the existing rooms will be done by the vendor as shown in the layout plan after approval by the Atomic Energy Regulatory Board (AERB).
3.	The walls of whole Cath Lab Complex should be finished acrylic/plastic emulsion and should be finished with tiles (of Kajaria/Johnson/Naveen) up to five feet height.
4.	The flooring in the Cath Lab complex should be as per AERB regulations. Flooring in all rooms and corridor shall be of vitrified tiles of 60 x 60cm size or other close appropriate size of reputed make like Kajaria/Johnson/Naveen
5.	Whole area of Cath Lab Complex as in the layout plan approved by the AERB shall be finished with fire resistant zypcian false ceiling (material used should be of ISI/BIS mark).
6.	All the doors should be provided with necessary fittings with hydraulic type door closures (DORMA/ reputed make) and with Mortised locks of Godrej / reputed make. Main door of the Cath Lab complex in the corridor shall be in glazed

7.	aluminum with adequate thickness of glass with etching work wherever required. Lead Glass window of adequate size will be fixed as per AERB guidelines in the console room. Proper signage both external and internal.
	Plumbing work has to be carried out as per requirement for scrub area and other areas.
8.	The pipes and accessories should be of centrifugally cast iron of ISI make and the connection of existing main hole in the public health shafts shall be done. All water pipes shall be Galvanized iron of TATA equivalent make and filling shall be SUW/UF/UNIK make. The grating shall be chrome plated. All CP fittings shall be of EBONY / Jaguar/ ESSCO.
	Electrical work: The firm is required to specify load requirement i.e. required for the unit, the air conditioning, room lighting and for the accessories, if any. The electrical works/accessories should be conforming to ISI/BIS standards and material should be ISI/BIS mark. The electrical works should have:
9.	Minimum two separate Earthing with copper plate is to be provided for the main equipment and air-conditioning equipment as per equipment requirements. The use of earth leakage circuit breaker will be required.
10.	A distribution panel of standard make and appropriate capacity is to be provided. The load shall be provided by the hospital. However, from the substation of the hospital to the distribution panel, cable of appropriate size will have to be provided and fixed be the vendor.
11.	The switch gears (MCBs / ACBs/ MCCBs) should be of Siemens / Hager (L&T) make.
12.	L.T. distribution board for MCBs etc. should be of Siemens/ Hager (L&T) make.
13.	Electrical wires should be of copper of different capacity as per the load and should be of Finolex/Havells/Polycab/L&T/Lapp Kabel make.
14.	Telephone wiring cables should be of Finolex / Havells/ Polycab make. Telephones to be provided in all rooms with EPBX system having control in office.
15.	Modular range Switches / Sockets of MK/ North West should be provided and fixed as per requirement.
16.	General lights should be of mirror optic reflector type of Phillips/Wipro/GE/Crompton make. Light dimmers (down lighters) should also be fixed in the equipment room.
17.	Ceiling fans/ wall fans to be provided in corridor and in all rooms.
18.	Steel conduit of BEC/AKG makes and conduit accessories of RAMA/Fitwell make.
19.	**Air conditioning**: Split Air conditions of reputed make Blue star/carrier/LG/Samsung/General to be provided by the vendor in whole complex as per requirements (to maintain appropriate temperature in the

	main equipment room & other rooms) and as per regulations of AERB. Standby additional split air condition(s) of appropriate strength/capacity (tonnage) to be fixed in the main equipment room. Hygrometer Nos.3 to be provided. In-built or External De Humidifier in Equipment, Console and Examination rooms to be provided as per room layout.
	Fire Protection
20.	Non water based fire protection is to be integrated as per requirement. Fire extinguishers of appropriate types conforming to ISI/BIS mark should be fixed in different rooms as per requirement. Heat detectors/hooters/photoelectric/smoke detecto4rs of ISI/BIS mark shall be provided in all the rooms and corridors as per requirements. In case the expiry date of fire extinguishers is before the completion of 5 years comprehensive warranty period, extra set(s) of fire extinguishers will be supplied by the vendor till the completion of the 5 years comprehensive warranty period.
	The vendor to also install the following:
21.	Audio visual Music systems for patient waiting areas.
22.	Ultrasonic Pest& insect repellents to be provided and installed.
23.	Music and Public Address system for calling/ informing the patients in the waiting areas.
24.	Storage cupboards made of wood/ply board to be fixed in different rooms as per requirement stated by department at time of installation.
25. 26.	As per requirement furniture and fixtures for all the area including chairs of Godrej/Durian reputed make should be provided. Furniture and other items, mentioned as of reputed make, will need approval of the department.
27.	**Defect liability:** The works shall be guaranteed for a minimum period of 5 years from the date of commissioning against any defective material/workmanship. The warranty and CMC of the Air conditioners will form part of the main equipment. The turnkey work including installation / commissioning of all the turnkey items should be completed within 3 months.
28.	Certification to the effect that the work has been executed as per the specifications incorporated in the above document will be by the Safdarjung Hospital/appropriate authority**.**

Item No. 24

Colour Doppler Portable

A portable USG Doppler unit to be quoted with the latest model. This machine should be capable and will be required to function clinically as standalone systems in case of high patient throughput during trauma and catastrophic situation.

1 Fully digital portable ultrasound machine with provision for Doppler examinations.
2 The unit should have a laptop type console design. The unit should be compact, lightweight and portable. Weight should not exceed 7kg including battery (excluding cart and accessories).
3 It should be suitable for abdominal, small parts and vascular applications in adults and paediatric patients. Multiple preloaded as well as user configurable application presets should be available.
4 Minimum grey scale resolution to be 256 with 128 or more digital processing channels.
5 Maximum scanning depth to be 30 cm or more.
6 The system to have a dynamic range of 165 decibels or more.
7 The system should support Convex and Linear probes.
8 Transducers (one each):
   a. Convex electronic phased array transducer: 2-6 MHz for abdominal imaging.
   b. Linear transducer: 5-12MHz MHz for vascular and small part imaging.
   c. Endocavitary probe (5-12MHz) with 140 deg FOV
9 All transducers should be lightweight digital broadband type transducers with 128 elements or more.
10 The system should have a frame rate of at least 300 frames per second (fps) in B mode.
11 The system should have an ergonomic full alphanumeric soft keys keyboard with easy access scans controls and trackball. Provision for attaching an external keyboard and mouse should be present.
12 The System must have integrated high – resolution TFT/LCD/Single monitor of 15” Inches or more. (This is needed for clinical application so that it will be used as standalone during high patient load during routine hours and catering to trauma/ catastrophe.)
13 The system should have cine loop review facility of not less than 60 sec/1000 frames.
14 The system should have the facility of digital storage and retrieval of B/W and colour image data on built-in CD/DVD Drive. Provision for USB port and LAN transfer of data should also be present.
15 Imaging modes of Real time 2D, Colour Doppler, Pulsed wave Doppler and Power (energy) Doppler, Tissue Harmonic Imaging with contrast to be quoted as standard feature.
16 Controls for 2D mode: Total gain, depth, TGC, dynamic range, acoustic power output.
17 Controls for Colour Doppler: PRF, colour gain, position and size of ROI, steering of ROI, colour maps and colour invert.
18 Controls for pulsed Doppler: variable sample volume size from 1 to 5mm or more, steer, PRF, baseline, gain angle correction, spectral invert, duplex on/off.
19 Measurements for 2D mode: Multiple distances, area and volume.
20 Measurements for Doppler modes: Stenosis quantification in area percentage, diameter, PSV, EDV, mean, PI, RI, acceleration time and index. Automatic and manual measurements and display of pulsed Doppler calculations should be possible.
21 Facility for storage on CDR should be available.
22 Unit should function with 200-240 V, 50 Hz AC, 5 amp power outlet. Power requirement to be specified.
23 In built battery backup should be at least one hour or more.
24 Essential accessories: Black & White Thermal printer and colour laser printer, UPS, mobile cart with transducer holder, jelly bottle holder and space for printer.
25 Paper and cartridges for 1000 image printouts should be provided with the unit.
26 The unit offered must be sturdy and should be able to withstand accidental hits and falls during transportation.
27 The unit offered in the tender will require technical demonstration.
28 Price of the main unit and accessories to be quoted separately.
29 Warranty: The unit, transducers and all accessories should be covered with comprehensive onsite warranty for five (5) years commencing from the date of issue of installation certificate.

30 Rates for comprehensive maintenance contract CMC (including all spared and labour) for 5 years, after expiry of warranty period, must be quoted separately.

31 Company should give undertaking regarding the spares availability of the quoted model for next seven years.

32 The bidder should enclose the original product data sheet, brochure and compliance sheet, without which the bid will be rejected. Computer generated data sheet and brochure will not be accepted. The serial number of specifications must be indicated against the relevant portion of the compliance sheet and data sheet.

33 The unit should be United States Food and Drug Administration (FDA) and Conformité Européenne (CE) approved.

34 Demonstration of the quoted model is must.

Item No. 25
CR System/High End Computed Radiography Unit

Computed Radiography must be a state of the art system manufactured by a reputed brand or manufacturer adhering to following specifications. CR system should broadly comprise of following modules/ components:

a) Image recording system (cassettes & reading plates)
b) Image reading system (reader/ digitizer)
c) Identification & CR processing workstation.
d) Dry imager.

1. Image recording system (cassettes & imaging plates).

The following sizes of radiography cassettes along with image plates should be supported by the unit.

a. 35 cm X 43 cm or 14"X 17" :4 nos.
b. 35 cm X 35 cm or 14" X 14" :4.nos.
c. 24 cm X 30 cm or 10" X 12": 4.nos.
d. 18 cm X 24 cm or 8"X 10": 4 nos.

2. Image reader (CR reader/ digitizer)

a. The CR reader / digitizer should be able to process 80 image plates/hr or more of the largest size cassette
b. CR reader / digitizer must be able to handle phosphor image plates. CR reader capable of handling latest Dual side /needle/structured/ columnar image plates will be preferred.
c. It should have a resolution of 6 pixels/mm (minimum) for standard resolution cassettes & 10 pixel/mm (minimum) for high resolution cassette reading.
d. Digitiser must have a resolution of 20 pixel/mm(minimum) for screening mammography.
e. It should have input -output buffer/ stacker that can load at least 4 cassettes at least.
f. Gray scale resolution: CR reader / digitizer should have a minimum resolution of 12bits/ pixel for images sent to CR processing station.

3. Identification Station & processing server

a. The main console must have 4GB or more RAM, and 1 TB Hard Drive and 19 inch clinical grade monitor. The work station should have RAID configuration Hard Disk and 19" monitor.
b. Processing server capable of identification of patient demographics to the acquired images will be preferred, else a separate identification station must be provided.
c. The server and /or ID station must be DMWL (DICOM modality worklist) compliant to access patient and study data from HIS or RIS.

d. It should provide display of acquired images with greater details of demographics viz. patient/ study listing for easy access
e. The server must provide full amount of post processing features viz. geometric corrections, window level algorithms, annotation like markers, predefined text, drawing lines and geometrical shapes, multi-scale image processing, measuring distance and angles, shuttering, histograms, zoom, grey scale reversal, edge enhancement, noise reduction, indication of gray scale saturation level, latitude reduction etc.
f. It should facilitate full fledged DICOM printing and should be able to print multiple formats of patient study.
g. Should be able to send DICOM images to DICOM workstation or PACS without loss of information
h. Should be equipped with DICOM CD writer for transferring image
i. Should be able to store image on external device viz. CD or pen drive etc.
j. The system should have a facility to indicate over /under exposure in the preview screen. Kindly specify the image preview time.
k. The software must have dedicated paediatric and mammography image processing.

4. Dry imager

a. The system must have a dry imager without need of any wet chemistry
b. It must be DICOM 3.0 compatible allowing multiple modalities to be connected at a time
c. The system must be able to print at least 60 films/ hr of the largest size
d. The system must deliver its first film within 80 seconds from the request sent
e. The imager must have spatial resolution of 500 ppi minimum
f. The system must have contrast resolution of 14 bits/ pixel or more. The system must have at least three online film sizes and should be capable of printing any of the 8" X 10", 10" X 12", 11" X 14" or 14" X 17" films.
g. The imager should support daylight loading of films.

5. Suitable UPS back up must be provided for 15 minutes backup for the whole system

6. The firm should attach detailed installation list along with users‘ complete address and telephone number.

7. Additional specialty software /hardware if any should be quoted separately as optional.

8. The availability of above mentioned features and technical specification must be substantiated with authentic published documents from manufacturer or regulatory bodies.

9. The unit should be US FDA or European CE approved for mammography.

10. The successful bidder will have to ensure onsite training of end users for a period not less than 6 weeks after installation of the unit.

Item No. 26

Electric Cautery/Electro Surgical Unit

1 Technical Specification

1.1 ESUs are used for surgical cutting and for controlling bleeding by causing coagulation (hemostasis) 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.

2 Operational Requirements

2.1 Microprocessor/Microcontroller technology

3 Technical Specifications

3.1 Integrated touch screen system with 350-400W output generator for monopolar cut, 100 - 120Watt for monopolar coagulation, bipolar cut 150Watt and Bipolar coagulation 120Watt and vessel sealing system for open and laparoscopic surgery with under water cutting current.

3.2 Should provide monopolar output for cut, coagulation (fulguration & spray) & blend in multiple levels

3.3 Should have bipolar cut and coagulation in multiple levels with automatic bipolar coagulation.

3.4 Activation by foot switch and hand switch for all the modes.

3.5 Activation of bipolar by foot switch

3.6 Capable of sealing vessels up to 7 mm diameter

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 from the control panel.

3.10 Programmable memory for output settings

3.11 Should be usable with laparoscopic monopolar and bipolar instruments, for which programmes and accessories must be available

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

3.13 System for monitoring and control of leakage current

3.14 Frequency Leakage on the patient should be less than 10 micro Amp.

4 System Configuration Accessories, spares and consumables

4.1 System as specified

4.2 The accessories should include:

(a) trolley, qty 01

(b) Mains cable with power plug for standard Indian sockets, qty 01

(c) foot switches for different outputs, qty 01

(d) reusable neutral electrode for adults and children along, with cable for neutral electrode and fixation device wherever required, qty 05 each

(e) sterilisable re usable electrode handle with finger switch with cable for electrode handle, qty 05

(f) set of electrodes (4 different types) with electrode container with holder, qty 5 of each type

(g) tip cleaner, minimum 50 nos

(h) bipolar forceps (non stick) with cable, straight (small and large), and Bayonet (small and large), qty 02 of each type

(i) cable for connecting to standard mono polar and bipolar laparoscopic instruments, qty 02

(j) Resuable dedicated instruments for open and laparoscopic monopolar, bipolar and vessel sealing use., qty 02 of each

4.3 The codes and rates of all possible individual accessories should be quoted separately with clear mention of period of validity of rates

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 -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 UPS with 30 min backup

7 Standards & Safety

7.1 Should be USFDA or European CE approved product
7.2 Manufacturer should have EN ISO certification for quality standards.
7.3 Complete system and all accessories mentioned should be from same make.

8 Training

8.1 Comprehensive training for staff of user department and support services till familiarity with the system.

9 Service

9.1 Percentage of uptime guarantee of the equipment during warranty and CMC period for which commitment is to be given must be specified with acceptance of applicable penalty clauses in case of failure to do so.
9.2 After sales service must be provided in the city of installation. In situations requiring service/repair of the unit outside the city of installation, the expenditure on account of this will have to be borne by the supplier

10 Documentation

10.1 Product Literature in original along with that of accessories and indigenous components if any. Photocopies/computer generated copies are not acceptable
10.2 Statement of compliance with tender specifications with clear and unambiguous links to relevant portions of product literature/authentic document, which should be highlighted. Alternatives provided for noncompliant specifications with justification must be described in detail with supporting literature.
10.3 Certificate of compliance with standards and approvals stated above
10.4 Certificate of manufacturer/principal regarding authorization of service facility provided by the supplier

Item No. 27
C-arm

A. X-RAY GENERATOR

a. Frequency : 30 KH or better
b. Power output : 2 KW or more
c. KV range : 40-110 KV or better
d. mA in radiography : 20mA or more
e. mA in fluoroscopy : 0.2 to 4 mA or more in normal fluoroscopy and 10 mA or more in High Level Fluro
f. Should have facility for continuous fluoroscopy and Pulse fluoroscopy (Pulse rate upto 12 pulse per second)
g. Should have Digital Spot for high quality single image, 16 mA or more
h. Housing heat capacity of minimum 400 KHU and cooling rate of more than 12,000 HU/min

B. X-Ray tube Head

a. Must have anode heat capacity of min 40,000 HU & cooling rate of min 25,000 HU/Min
b. Should have dual/Single focal spots
c. Collimation : motorized iris and motorized rotating blades
d. Tube assembly filtration of 3.0 mm Al or higher

C. C-Arm mechanism and control panel

a. Locks for stabilization at desired position
b. It should have the following range of movements:
c. Motorized vertical movements more than 400mm
d. Horizontal travel : 200mm or more
e. Orbital movement : (-) 30 deg. To (+) 90 Deg. (120 Deg. Or more)
f. Swing / panning movement : +/- 10 degrees or more
g. Source image distance : 950 mm or more
h. Depth of c-arm : 650 mm or more

D. Control panel (Digital work station)
a. It should have the following facilities :
b. System should have capabilty of Pulse Fluoroscopy option to reduce to radiation exposure with 1,2,4,8 pulse
c. per second,which should be easily user selectable
d. Fluoroscopy and Radiography exposure on switching
e. Image rotation from control panel
f. Image intensification, mode selection (normal and zoom)
g. Automatic brightness stabilizer
h. Auto dose rate control
i. Collimation for radiography .

E. Integrated image processing, recording and memory system :
a. Image intensifier tube
i. Input diameter 9" with Triple field (9/6)
ii. Minimum central resolution (at monitor) : 1.4 lp/mm or better at 9" FOV
b. CCD camera
i. CCD camera with 1kx1k resolution for high resolution image acquisition
c. Integrated image processing, memory and recording system should have
i. Medical Grade Monitors (Two Nos.)
ii. Min 18 inch or more , black and white, flicker free, high resolution (1280x1024 pixels or better), medical grade flat screen TFT, automatic and manual control of brightness and contrast, mounted on mobile trolley with locking device
d. Digital image processor
i. Provision to record multiple images on CD,DVD& USB with embedded DICOM viewer.
ii. Image processing at 1K * 1K Matrix
iii. Contrast enhancement, edge enhancement, zoom facility
iv. Recursive filter
v. Last image hold
vi. Image rotation, vertical and horizontal reversal
vii. Medical imaging software's with ability to store 5000DICOM Compatable images in internal storage
e. Additional features
i. The equipment should work on a Power supply of 220-240 Volts, 50-60 Hz, 15 amp.
ii. Built in/Compatible/External UPS to protect & save patient data.
iii. Lead Aprons with all round protection – 04
iv. Lead Aprons with front protection- 06
v. Thyroid shield – 10
f. Regulatrory / Safety Requirement
i. Equipment should have AERB Type Approval Certificate for radiation safety
ii. Equipment should have CE for full product with notified body indentification number and US FDA certificate

GENERAL TECHNICAL SPECIFICATIONS

GENERAL POINTS:

1. Warranty:

   a) Five years Comprehensive Warranty as per Conditions of Contract of the TE document for complete equipment (including Batteries for UPS, other vacuumatic parts wherever applicable) Warranty period will be 2 years from the date of installation, commissioning 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. The same will be in line with the training modalities as specified in general technical specification.

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 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. The same will be taken at Net Present Value with a 10% discounting factor each year.
   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 Tenderer 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.

Note 1: Tenderer's attention is drawn to GIT clause 18 and GIT sub-clause 11.1 A (iii). The tenderer is to provide the required details, information, confirmations, etc. accordingly failing which its 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: Adequate training of personnel and non-locked open software and standard interface interoperability conditions for networked equipment in hospital management information system (HMIS)

The successful tenderer will be required to undertake to provide at his cost technical training for personnel involved in the use and handling of the equipment on site at the institute immediately after its installation. The company shall be required to train the institute personnel onsite for a minimum period of 1 month

All software updates should be provided free of cost during warranty period and CMC period

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

1. The tenderer must be a manufacturer. In case the manufacturer does not quote directly, they may authorise their authorized agent as per proforma of Manufacturer authorization form as given in the tender enquiry document to quote and enter into a contractual obligation.

2. (a) The Manufacturer should have supplied and installed in last **Five** years from the date of Tender Opening, at least 33% of the quoted quantity of the similar equipment meeting major parameters of technical specification which is functioning satisfactorily.

2. (b) The Tenderers quoting as authorized representative of the manufacturer meeting the above criteria 2 (a) should have executed at least one contract in the last five years from the date of tender opening of similar equipment meeting major parameters of technical specification which is functioning satisfactorily, anywhere in India of the same manufacturer

Note:

1. The tenderer shall give an affidavit as under:

   "We hereby certify that if at any time, information furnished by us is proved to be false or incorrect, we are liable for any action as deemed fit by the purchaser in addition to forfeiture of the earnest money."

2. In support of 2 (a) & 2 (b), the Tenderer shall furnish Performance statement in the enclosed Proforma 'A'.

   The manufacturer (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.

3. 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.

4. 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.

5. 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

We hereby certify that if at any time, information furnished by us is proved to be false or incorrect, we are liable for any action as deemed fit by the purchser in addition to forfeiture of the earnest money.

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.**

**** The bidders are requested to submit the latest purchase order copies supplied to AIIMS, PGIMER, JIPMER, Institute of National importance for the specific model quoted along with the price bid.**

Section – X
TENDER FORM

Date_____

To

Head (P&CD), HLL Lifecare Limited, Procurement and Consultancy Division, B-14 A, Sector - 62, Noida -201307, 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 as shown in the price schedules 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**_____

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) 4X 5 (e)
				FOB price at port/ airport of Lading (a)	Indian Agency Commission (% of FOB)* *	Net FOB (a)	Freight & 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	

** 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
4. Custom duty @ 11.64% and 2% C& F charges will be added to the CIP price to arrive at the DDP price for evaluation purpose.

Indian Agent:
Indian Agency Commission - ___% of FOB
Signature of Tenderer_____

Name_____
Business Address_____
Signature of Tenderer_____
Seal of the Tenderer_____

Place: _____
Date: _____

C) PRICE SCHEDULE FOR ANNUAL COMPREHENSIVE MAINTENANCE CONTRACT AFTER WARRANTY PERIOD

1	2	3	4					5	6
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 Each Unit for 5 years (4a+4b+4c+4d+4e)**	**Annual Comprehensive Maintenance Contract Cost for 05 years (3 x 5)**
			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. **"Whether service tax on CMC is inclusive or extra ,if extra, indicate the present rate....."**.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: _____

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_____

Place: _____ **Signature of Tenderer**_____

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:-

   fails or refuses to furnish the performance security for the due performance of the contract or
   fails or refuses to accept/execute the contract or
   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 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 – XIV

MANUFACTURER'S AUTHORISATION FORM

Head (P&CD),
HLL Lifecare Limited, Procurement and Consultancy Division
B-14 A, Sector -62, Noida -201307, Uttar Pradesh

Dear Sir,

Ref: Your TE document No _____ dated _____

We, _____ who are proven and reputable manufacturers of_____(*name and description of the goods offered in the tender*) having factories at_____, hereby authorise Messrs_____(*name and address of the agent*) to submit a tender, process the same further and enter into a contract with you against your requirement as contained in the above referred TE documents for the above goods manufactured by us.

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

We further confirm that no supplier or firm or individual other than Messrs. _____ (*name and address of the above agent*) is authorised to submit a tender, process the same further and enter into a contract with you against your requirement as contained in the above referred TE documents for the above goods manufactured by us.
We also hereby extend our full warranty, CMC as applicable as per clause 15 of the General Conditions of Contract, read with modification, if any, in the Special Conditions of Contract for the goods and services offered for supply by the above firm against this TE document.

We also hereby confirm that we would be responsible for the satisfactory execution of contract placed on the authorised agent

We also confirm that the price quoted by our agent shall not exceed the price which we would have quoted directly"

Yours faithfully,

[*Signature with date, name and designation*]
for and on behalf of Messrs_____
[*Name & address of the manufacturers*]

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

SECTION – XV

BANK GUARANTEE FORM FOR PERFORMANCE SECURITY/ CMC SECURITY

Head (P&CD),
HLL Lifecare Limited, Procurement and Consultancy Division
B-14 A, Sector -62, Noida -201307, Uttar Pradesh

WHEREAS _____ (Name and address of the supplier) (Hereinafter called "the supplier") has undertaken, in pursuance of contract no_____ dated _____ to supply (description of goods and services) (herein after called "the contract").

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognised by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

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

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of. _____ (Amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

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

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

This guarantee shall be valid up to 66 (Sixty Six) 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) _____

(ii) 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

6. Warranty clause
7. Payment terms
8. 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: _____

CONTRACT FORM – B

CONTRACT FORM FOR ANNUAL COMPREHENSIVE MAINTENANCE CONTRACT

Annual CM Contract No._____ dated_____
Between

(Address of Head of Hospital
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

2. 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 authorised official)

_____

(Signature, name and address of Hospital 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

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:

a) He has not adhered to the time schedule specified in the contract in dispatching the documents/ drawings pursuant to 'Technical Specifications'.
b) He has not supervised the commissioning of the equipment(s)/plant(s)in time, i.e. within the

period specified in the contract from date of intimation by the Purchaser/Consignee in respect of the installation of the equipment(s)/plant(s).

c) The supplier as specified in the contract has not done training of personnel.

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:

i) He has adhered to the time schedule specified in the contract in dispatching the documents/drawings pursuant to 'Technical Specification'.

ii) 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).

iii) Training of personnel has been done by the supplier as specified in the contract.

iv) 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. 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?			
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?			

Sl No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
b.	Have you submitted copy of the order(s) and end user certificate?			
6.	Have you 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?			
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?			

Sl No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
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?			
18	Have you enclosed the latest purchase order copies supplied to AIIMS, PGIMER, JIPMER or Institute of National importance for the specific model quoted along with the price bid			

N.B.

3. All pages of the Tender should be page numbered and indexed.
4. 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 / Dry Port
GMCA	Government Medical College, Amritsar	The Principal Government Medical Collage Amritsar Circular Road, Amritsar Punjab 143001 Ph: 0183 257 2304	New Delhi	New Delhi (Tughlaqabad)
JNMC	Jawahar Lal Nehru Medical College, Aligarh (Aligarh Muslim University)	The Principal Jawahar Lal Nehru Medical College, Aligarh Muslim University Aligarh -202001 Uttar Pradesh Ph: 0571-2721165 Fax: 0571-2720039	New Delhi	New Delhi (Tughlaqabad)
BDS PGIMS	Pt. Bhagwat Dayal Sharma University of Health Sciences, Rohtak and Pt. Bhagwat Dayal Sharma Post Graduate Institute of Medical Sciences, Rohtak	The Director Pt. B.D. Sharma PGIMS, Rohtak. Ph. 01262-211300 -03, 212641,212643 -46, 48 & 50 FAX: 01262-211308	New Delhi	New Delhi (Tughlaqabad)
DRPGMC	Dr. Rajendra Prasad Govt. Medical College, Tanda	The Principal Dr. Rajendra Prasad Govt. Medical College, Kangra at Tanda, Tanda – 176001 Himachal Pradesh Ph: 01892 – 267115, 2678640 Fax: 01892 - 267115	New Delhi	New Delhi (Tughlaqabad)

NB: The consignee will ensure timely issue of NMIC, CDEC, Octroi Exemption Certificates, Road Permits & Entry Tax Exemption Certificates, wherever applicable, to the suppliers.