NATIONAL TENDER ENQUIRY DOCUMENT

FOR PURCHASE OF MEDICAL EQUIPMENT

FOR & ON BEHALF OF

Safderjung Hospital, New Delhi

On E-Tender Basis

HSCC/SJH/Medical Equipment/2015/5

Dated 07/07/2015

BY

HSCC (INDIA) LTD

(A GOVERNMENT OF INDIA ENTERPRISE)
Plot No. 6-A, Block-E, Sector-1, NOIDA (U.P.) – 201 301
PHONE: 0120-2540153
FAX: 0120-2542447
URL: www.hsccltd.com

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SECTION- I

NOTICE INVITING TENDERS (NIT)

For NATIONAL TENDER ENQUIRY DOCUMENT

HSCC (INDIA) LTD

(A GOVERNMENT OF INDIA ENTERPRISE)

Plot No. 6-A, Block-E, Sector-1, NOIDA (U.P.) – 201 301

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SAFDERJUNG HOSPITAL & VMMC, NEW DELHI

GOVT OF INDIA
MINISTRY OF HEALTH & FAMILY WELFARE

Tender Enquiry No.: HSCC/SJH/Medical Equipment/2015/5 **Dated 07.07.2015**

NOTICE INVITING TENDERS (NIT) - <u>On E-TENDER BASIS</u>

Medical Superintendent, Safdarjung Hospital & VMMC, New Delhi under Ministry of Health & Family Welfare, Govt. of India through their Consultants HSCC (India) Ltd. invites **On-line bids** from eligible bidders, in single stage two bid system for supply, installation, testing, commissioning & handing-over of various **Medical Equipment for New Emergency Block & Super-Specialty Block at Safderjung Hospital & VMMC, New Delhi**:

S. No.	Equipment Details	Qty./ Requirements	EMD (Rs.)
	For Radiology Deptt. at New Emergency Block		
1	3 Tesla MRI Unit	1 no. for Emergency Block	20,00,000.00
2	256-Slice CT Scan	1 no. for Emergency Block	20,40,000.00
3	Bi-Plane DSA	1 no. for Emergency Block	13,00,000.00
4	Digital Radio Fluoroscopy System	1 no. for Emergency Block	4,00,000.00
5	Digital Flat Panel Radiography System	2 no. for Emergency Block	7,00,000.00
6	Portable Flat Panel Radiography System	2 no. for Emergency Block	3,40,000.00
7	High End Colour Doppler USG with Biopsy	2 no. for Emergency Block	3,20,000.00
8	Portable Ultrasound with Color Doppler System	2 no. for Emergency Block	1,60,000.00

9	Color Ultrasound Machine with Biopsy	1 no. for Emergency Block	70,000.00
	Pulmonary, Critical Care & Sleep Medicine at New Super-Specialty Block		
10	Ultrasound-cum-Echo Colour Doppler	5 no. ICU + 1 no. for Pulmonary Care of Super-Specialty Block = 6 no.	2,60,000.00
11	Sleep Lab	1 no. for Pulmonary Care of Super-Specialty Block	40,000.00
12	Portable Sleep Lab.	1 no. for Pulmonary Care of Super-Specialty Block	10,000.00
13	Actigraph	2 no. for Pulmonary Care of Super-Specialty Block	20,000.00
14	Precison Spirometer	4 no. for Pulmonary Care of Super-Specialty Block	32,000.00
15	Video Bronchoscope	1 no. for Pulmonary Care of Super-Specialty Block	50,000.00
16	Flexi-Rigid Video Thoracoscope	1 no. for Pulmonary Care of Super-Specialty Block	60,000.00
17	Rigid Bronchoscope	2 no. for Pulmonary Care + 2no. for Cardiac Surgery of Super-Specialty Block	52,000.00
18	Pulse Oximeter	2 no. ICU + 15 no. for Pulmonary Care of Super-Specialty Block = 6 no.	31,200.00
19	Pulse Oximeter cum Capnograph	10 no. for Pulmonary Care of Super-Specialty Block	40,000.00
20	Haemodialysis Machine (Hybrid) & for Continuous Renal Replacement Therapy	1 no. for Pulmonary Care of Super-Specialty Block	26,000.00
21	Endo-bronchial System (EBUS)	1 no. for Pulmonary Care of Super-Specialty Block	1,40,000.00
22	IABP (Intra-Aortic Balloon Pump)	1 no. for Pulmonary Care of Super-Specialty Block	40,000.00
23	Pulmonary Rehabilitation System Consisting of: -Active Passive Trainer -Chest Vibrator -EMG Bio-feedbabk -Movement Therapy for Patient in Spine	1 no. for Pulmonary Care of Super-Specialty Block	1,00,000.00

	Position -Pulmonary Rehabilitation Treadmill -Semi-Recumbent Ergometer -Upper Body Cycle		
24	Non-Invasive Ventilator	10 no. for Pulmonary Care of Super-Specialty Block	80,000.00
25	Extra Corporeal Membrane Oxygenator System	Lot for Pulmonary Care of Super-Specialty Block	1,20,000.00
26	Transcutaneous PO_2 & PCO_2 Monitor	5 no. for Pulmonary Care of Super-Specialty Block	50,000.00

The bidders are required to be registered at HSCC e-tender portal www.tenderwizard.com/HSCC. Please log on to www.tenderwizard.com/HSCC only for downloading bid document and for participation through **E-tendering basis.** For submission and other details please refer HSCC e-tender portal www.tenderwizard.com/HSCC. For submission of the bids, the bidders are required to have Digital Signature Certificate (DSC) from the authorized Certifying Authorities.

Complete set of Bid Documents has been made available at E-Tender portal www.tenderwizard.com/HSCC, www.hsccltd.com for downloading from **07.07.2015 to 28.07.2015**. Prospective bidders are advised to regularly scan through HSCC E-tender portal www.tenderwizard.com/HSCC, as corrigendum/modification/amendments, if any, will be notified on this portal only and no separate advertisement will be made for this.

(2) **Tender No.: HSCC/SJH/Medical Equipment/2015/5** **Dated 07.07.2015**

Sl. No.	Description	Schedule
i.	Dates of sale of tender enquiry documents	**07.07.2015 to 28.07.2015, 10.00 hrs to 1400 hrs IST**
ii.	Place of sale of Tender Enquiry Documents	HSCC (India) Ltd, Plot No. 6-A, Block-E, Sector-1, Noida (U.P)-201301
iii.	Cost of the Tender Enquiry Document	INR 3, 000/-
iv.	Pre Tender Meeting Date & Time	**17.07.2015, 14.30 hrs. IST**
v.	Pre Tender Meeting Venue	Medical Superintendent Office, Conference Room, Safdarjung Hospital, New Delhi
vi.	Closing date & time for receipt of Tender	**28.07.2015, 1430 hrs IST (Radiology)** **29.07.2015, 1430 hrs IST (Pulmonary Medicine & Sleep Lab.)**
vii.	Time and date of opening of Techno – Commercial tenders	**28.07.2015, 1500 hrs IST (Radiology)** **29.07.2015, 1500 hrs IST (Pulmonary Medicine & Sleep Lab.)**
viii.	Venue of Opening of Techno Commercial Tender	Same as 2 (ii)

2. Interested tenderers may obtain further information about this requirement from this office inviting the tenders.

3. The prospective bidders who have not registered can register with E-procurement system of NIC by paying necessary registration charges. The bidders may prepare a banker cheque/Draft in favour of HSCC (India) Ltd. Office at Noida, payable at Noida/Delhi and deposit it. In order to submit the bids electronically bidders are required to have type-II Digital Signature Certificate. Digital Signature can be obtained from any of the certifying agency.
The tender shall be submitted all the necessary documents and in physical form (with respect to few documents as mentioned in the SIT) in parts/covers as mentioned below:

In Original Offline & Copy Online (In separate Envelope : Part-I)

(i) Tender Fee and EMD
(ii) Affidavit as per Section XIX
(iii) Performance statement along with required PO copies and its corresponding end user"s satisfactory performance certificate as per section IX.
(iv) Technical compliance for the quoted goods vis-à-vis the Technical specifications with all related brochures/catalogues in the tender enquiry

Online (Part-II)

(i) Tender Fee and EMD
(ii) Power of Attorney
(iii)Tender Form as per section X.
(iv)Manufacturers Authorization Form
(v) Affidavit as per Section XIX
(vi)Proforma A
(v) Performance statement along with required PO copies and its corresponding end user"s satisfactory performance certificate as per section IX.
(vi) Name, address and details of account with respect to bidder and/or beneficiary of L/C. Copy of PAN. Certificate of Incorporation/Declaration being a proprietary firm.
(vii) Audited Annual report of last 3 completed financial years (Balance sheet and Profit & Loss Account). Certificate of Regn. Issued by Directorate of Industries/NSIC, if SSI unit.
(viii) Quality Control Requirements as per Section VIII

Offline (Part-III)
(i)Technical compliance for the quoted goods vis-à-vis the Technical specifications with all related brochures/catalogues in the tender enquiry, technical bid.
(iv) Price Bid (Only online).

- Price Schedule
- CMC Price Schedule
- Turnkey Price Schedule

4. All prospective tenderers may attend the Pre Tender meeting. For all the above tender IDs, Pre-bid meeting shall be held as mentioned above.

5. To participate in the submission against the tender, it is mandatory for the Applicants to get digital signature and get themselves registered with e-tendering system.

6. Complete set of Bid Documents has been made available at E-Tender portal www.tenderwizard.com/HSCC, www.hsccltd.com for downloading. The cost the Tender Enquiry Document is **INR 3000/ which is payable in the form of Cash/Demand Draft** drawn on a scheduled bank in India in favour of **HSCC (India) Ltd**. payable at Delhi/Noida.. Tenderer may download the tender enquiry documents from the website and submit its tender online after logging in to their user ID. The bidders are required to be registered at HSCC e-tender portal www.tenderwizard.com/HSCC. Please log on to www.tenderwizard.com/HSCC only for uploading its tender on-line for participation through **E-Tendering basis**. For submission and other details, please refer HSCC e-tender portal www.tenderwizard.com/HSCC.

7. Tenderers shall ensure that their tenders, complete in all respects, are submitted online and desired hard copies in original dropped in the Tender Box located at HSCC (India) Ltd., E-6A, Sector-1, Noida, U.P.-201301 on or before the closing date and time indicated 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 physical form of tenders will be received/opened on the next working day at the appointed time. Bidders are requested to regularly visit website www.tenderwizard.com/HSCC & www.hsccltd.com for corrigendum/amendments etc., if any, as these there no separate advertisement for them.

Medical Superintendent
Safderjung Hospital,
New Delhi.

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 the organization purchasing goods and services as incorporated in the Tender Enquiry document, i.e. Medical Superintendent, Safderjung Hospital & VMMC, New Delhi.
(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 instruments, machinery, equipment, medical equipment, 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 Safderjung Hospital, New Delhi/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) "CMC" means Comprehensive maintenance Contract (labour, spare and preventive maintenance)
(xxxi) "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 – Affidavit
- Section XX – Check List
- Section XXI – Consignee

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 the referred website only.

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 on or before the due date of pre-bid meeting**. No queries will be entertained later on. The purchaser will respond in writing to such request as per the schedule.

C. PREPARATION OF TENDERS

11. Documents Comprising the Tender

11.1 The bids shall be submitted online and in physical form in three parts/covers as mentioned below:
(i) Tender Fee, EMD, Pre-qualification as per Tender Terms and referred in checklist at section XIX and as mentioned in para A below.
(ii) Technical Bid
(iii) Price Bid (Only online).

Tenderers are requested not to submit the hard copy of Price Bid along with the physical form of tender. In case the hard copy of price bid is submitted in physical form, the tender shall be straightway rejected. Also, uploading of the price bid in prequalification bid or technical bid will result in rejection of the tender.

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

i) Earnest money furnished in accordance with GIT clause 19.1 alternatively, documentary evidence as per GIT clause 19.2 for claiming exemption from payment of earnest money.
ii) Tender Form as per Section X (without indicating any prices).
iii) Documentary evidence, as necessary in terms of clauses 5 and 17 establishing that the tenderer is eligible to submit the tender and, also, qualified to perform the contract if its tender is accepted.
iv) Tenderer/Agent who quotes for goods manufactured by other manufacturer shall furnish Manufacturer's Authorisation Form.
v) Power of Attorney in favour of signatory of TE documents.
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/Installation Reports.
viii) Certificate of Incorporation in the country of origin.

B) Price Tender:

1. Prices are to be quoted in the attached Price Bid format online as per the directionson the official website.

2. The price should be quoted for the accounting unit indicated on the website.

The bidder shall not submit hard copy of financial bid otherwise his tender shall be straightway rejected. Also, uploading the price bid in prequalification bid or technical bid will result in rejection of the tender.

Note:
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 A person signing (manually or digitally) the tender form or any documents forming part of the contract on behalfof another shall be deemed to warrantee that he has authority to bind such other personsand if, on enquiry, it appears that the persons so signing had no authority to do so, thepurchaser may, without prejudice to other civil and criminal remedies, cancel the contractand 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. Bidders must quote the prevailing taxes and duties as applicable.

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

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

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

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

a) The price of goods quoted FOB/FCA port of shipment, as indicated in the List of Requirements and Price Schedule;
b) the price of goods quoted CIP (name port of destination) in India as indicated in the List of Requirements, Price Schedule and Consignee List;
c) 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;

d) the charges for Incidental Services, as in the List of Requirements and Price Schedule;
e) the prices of Turnkey (if any), as mentioned in List of Requirements, Technical Specification and Price Schedule; and
f) the Total tender price of goods quoted DDP basis at consignee site in India as indicated in the List of Requirements, Price Schedule and Consignee List
g) the price of annual CMC, as mentioned in List of Requirements, Technical Specification and Price Schedule.

13.5 Additional information and instruction on Duties and Taxes:

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

13.5.2 Excise Duty:

a) If reimbursement of excise duty is intended as extra over the quoted prices, the supplier must specifically say so also indicating the rate, quantum and nature of the duty applicable. In the absence of any such stipulation it will be presumed that the prices quoted are firm and final and no claim on account of excise duty will be entertained after the opening of tenders.
b) If a Tenderer chooses to quote a price inclusive of excise duty and also desires to be reimbursed for variation, if any, in the excise duty during the time of supply, the tenderer must clearly mention the same and also indicate the rate and quantum of excise duty included in its price. Failure to indicate all such details in clear terms may result in rejection of that tender.
c) Subject to sub clauses 13.5.2 (a) & (b) above, any change in excise duty upward/downward as a result of any statutory variation in excise duty taking place within contract terms shall be allowed to the extent of actual quantum of excise duty paid by the supplier. In case of downward revision in excise duty, the actual quantum of reduction of excise duty shall be reimbursed to the purchaser by the supplier. All such adjustments shall include all reliefs, exemptions, rebates, concession etc. if any obtained by the supplier.

13.5.3 Sales Tax:

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

13.5.4 Octroi Duty and Local Duties & Taxes:

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

contract placed by the purchaser are exempted from levy of any such duty or tax and, wherever necessary, obtain the exemption certificate from the purchaser.
However, if a local body still insists upon payment of such local duties and taxes, the same should be paid by the supplier to the local body to avoid delay in supplies and possible demurrage charges and obtain a receipt for the same. The supplier should forward the receipt obtained for such payment to the purchaser to enable the purchaser reimburse the supplier and take other necessary action in the matter.

13.5.5 Customs Duty:

The Purchaser will reimburse the Customs duty wherever applicable. Supplier shall be responsible for customs clearances of the consignments.

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) Copy of the agreement between Indian Agent & their principal detailing the scope of work/services during warranty & after sales periods.

15. Firm Price

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

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

16. Alternative Tenders

16.1 Alternative Tenders are not permitted.

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

17 Documents Establishing Tenderer's Eligibility and Qualifications

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

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

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

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

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

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 the tenderer shall furnish along with its tender, earnest money for amount as shown in the List of Requirements. The earnest money is required to protect the purchaser against the risk of the tenderer's unwarranted conduct as amplified under sub-clause 19.7 below.

19.2 The tenderers who are currently registered and, also, will continue to remain registered during the tender validity period with Directorate General of Supplies & Disposals or with National Small Industries Corporation, New Delhi for the specific goods as per tender enquiry specification shall be eligible for exemption from EMD. Vague stipulations in the Registration Certificate such as "to customers' specification" etc. will not be acceptable for exemption from furnishing of earnest money. In case the tenderer

falls in these categories, it should furnish copy of its valid registration details (with DGS&D or NSIC, as the case may be)

19.3 The earnest money shall be denominated in Indian Rupees 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 **"HSCC (India) Ltd"** payable at New Delhi/Noida. In case of bank guarantee, the same is to be provided from any commercial bank in India or country of the tenderer as per the format specified under Section XIII in these documents.

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

19.6 Unsuccessful tenderers' earnest money will be returned to them without any interest, after expiry of the tender validity period, but not later than thirty days after conclusion of the resultant contract. Successful tenderer's earnest money will be returned without any interest, after receipt of performance security from that tenderer.

19.7 Earnest Money is required to protect the purchaser against the risk of the Tenderer's conduct, which would warrant the forfeiture of the EMD. Earnest money of a tenderer will be forfeited, if the tenderer withdraws or amends its tender or impairs or derogates from the tender in any respect within the period of validity of its tender or if it comes to notice that the information/documents furnished in its tender is incorrect, false, misleading or forged without prejudice to other rights of the purchaser. The successful tenderer's earnest money will be forfeited without prejudice to other rights of Purchaser if it fails to furnish the required performance security within the specified period.

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

20. Tender Validity

20.1 If not mentioned otherwise in the SIT, the tenders shall remain valid for acceptance for a period of 120 days (One hundred and twenty days) after the date of tender opening prescribed in the TE document. Any tender valid for a shorter period shall be treated as unresponsive and rejected.

20.2 In exceptional cases, the tenderers may be requested by the purchaser to extend the validity of their tenders up to a specified period. Such request(s) and responses thereto shall be conveyed by surface mail or by fax/ telex/cable followed by surface mail. The tenderers, who agree to extend the tender validity, are to extend the same without any change or modification of their original tender and they are also to extend the validity period of the EMD accordingly. A tenderer, however, may not agree to extend its tender validity without forfeiting its EMD.

20.3 In case the day up to which the tenders are to remain valid falls on/ subsequently declared a holiday or closed day for the purchaser, the tender validity shall automatically be extended up to the next working day.

21. Signing and Sealing of Tender

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

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

21.3 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.

D. SUBMISSION OF TENDERS

22. Submission of Tenders

22.1 The tender shall be submitted online and in physical form (except price bid) in three parts/covers as mentioned below:

(i) Tender Fee and EMD (Both online and physical)

(ii) Pre-qualification and Technical compliance as per following documents (Online submissions for all the documents and physical submission only for affidavit as per point i) below and original Technical brochures/catalogues against point j):

a) Manufacturer"s authorization in case bid is submitted by an Indian agent (A declaration must be attached here in case directly quoted by a manufacturer or a document establishing the relation of the Indian office with the manufacturer in case quoted by Indian office of the manufacturer).
b) b) Tender Form as per section X.
c) c) Copy of PAN.
d) Certificate of Incorporation/Declaration being a proprietary firm.
e) Annual report of last 3 years (Balance sheet and Profit & Loss Account)
f) Name, address and details of account with respect to bidder and/or beneficiary of L/C.
g) Quality Control Requirements as per Section VIII
h) Performance statement along with required PO copies and its corresponding end user"s satisfactory performance certificate as per section IX.
i) Affidavit as per Section XIX
j) Technical Bid along with clause-by-clause technical compliance statement for the quoted goods vis-à-vis the Technical specifications in the tender enquiry (Both online and physical)

(iii) Price Bid (Only online).

Bidders are requested not to submit the hard copy of Price Bid along with the physical form of tender. Uploading of the price bid in prequalification bid or technical bid will result in rejection of the tender.

Unless otherwise specified, the tenderers are to submit its tender online and deposit the physical form of tenders in the tender box kept for this purpose at HSCC (India) Ltd., E-6A, Sector-1, Noida-201301, ((UP).

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 physical 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 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 Purchaser will determine the responsiveness of each Tender to the TE Document without recourse to extrinsic evidence.

27.3 The tenders will be scrutinized to determine whether they are complete and meet the essential and important requirements, conditions etc. as prescribed in the TE document. The tenders, which do not the meet the basic requirements, are liable to be treated as non – responsive and will be summarily ignored.

27.4 The following are some of the important aspects, for which a tender shall be declared non – responsive and will be summarily ignored;

(i) Tender form as per Section IX (signed and stamped) not enclosed
(ii) Tender is unsigned.
(iii) Tender validity is shorter than the required period.
(iv) Required EMD (Amount, validity etc.)/ exemption documents have not been provided.
(v) Tenderer has quoted for goods manufactured by other manufacturer(s) without the required Manufacturer's Authorisation Form as per Section XIV.
(vi) Tenderer has not agreed to give the required performance security.
(vii) Goods offered are not meeting the tender enquiry specification.
(viii) Tenderer has not agreed to other essential condition(s) specially incorporated in the tender enquiry like terms of payment, liquidated damages clause, warranty clause, dispute resolution mechanism applicable law.
(ix) Poor/ unsatisfactory past performance.
(x) Tenderers who stand deregistered/banned/blacklisted by any Govt. Authorities.
(xi) Tenderer is not eligible as per GIT Clauses 5.1 & 17.1.
(xii) Tenderer has not quoted for the entire quantity as specified in the List of Requirements in the quoted schedule.

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

(i) The bidder has submitted hard copy of financial bid (only online submission price bids are allowed).
(ii) Tender validity is shorter than the required period.

(iii) Required EMD (Amount, validity etc.)/ exemption documents have not been provided.
(iv) Tenderer has quoted for goods manufactured by other manufacturer(s) without the required Manufacturer"s Authorisation Form as per Section XIV.
(v) 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.
(vi) 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.
(vii) Poor/ unsatisfactory past performance.
(viii) Tenderers who stand deregistered/banned/blacklisted by any Govt. Authorities.
(ix) Tenderer is not eligible as per GIT Clauses 5& 17.1.
(x) Tenderer has not quoted for the entire quantity as specified in the List of Requirements in the quoted schedule.
(xi) Tenderer has not agreed for the delivery terms and delivery schedule.

28. Minor Infirmity/Irregularity/Non-Conformity

28.1 If during the preliminary examination, the purchaser find any minor informality and/or irregularity and/or non-conformity in a tender, the purchaser will convey its observation on such 'minor' issues to the tenderer by registered/speed post etc. asking the tenderer to respond by a specified date. If the tenderer does not reply by the specified date or gives evasive reply without clarifying the point at issue in clear terms, that tender will be liable to be ignored.

29 Discrepancies in Prices

29.1 If, in the price structure quoted by a tenderer, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless the purchaser feels that the tenderer has made a mistake in placing the decimal point in the unit price, in which case the total price as quoted shall prevail over the unit price and the unit price corrected accordingly.

29.2 If there is an error in a total price, which has been worked out through addition and/or subtraction of subtotals, the subtotals shall prevail and the total corrected; and

29.3 If there is a discrepancy between the amount expressed in words and figures, the amount in words shall prevail, subject to sub clause 29.1 and 29.2 above.

29.4 If, as per the judgement of the purchaser, there is any such arithmetical discrepancy in a tender, the same will be suitably conveyed to the tenderer by registered / speed post. If the tenderer does not agree to the observation of the purchaser, the tender is liable to be ignored.

30. Discrepancy between original and copies of Tender

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

31. Qualification Criteria

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

32. Conversion of tender currencies to Indian Rupees

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

33. Schedule-wise Evaluation

33.1 The tenders will be evaluated and compared separately for each schedule. The tender for a schedule will not be considered if the complete requirements prescribed in that schedule are not included in the tender.

34. Comparison of Tenders

34.1 Unless mentioned otherwise in Section – III – Special Instructions to Tenderers and Section – VI – List of Requirements, the comparison of the responsive tenders shall be carried out on Delivery on DDP basis at Consignee site basis, inclusive of applicable taxes, duties, incidental services. The quoted turnkey prices and CMC prices will also be added for comparison/ranking purpose for evaluation.

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

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

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

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

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

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

36. Tenderer's capability to perform the contract

36.1 The purchaser, through the above process of tender scrutiny and tender evaluation will determine to its satisfaction whether the tenderer, whose tender has been determined as the lowest evaluated responsive tender is eligible, qualified and capable in all respects to perform the contract satisfactorily. If, there is more than one schedule in the

List of Requirements, then, such determination will be made separately for each schedule.

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

37. Contacting the Purchaser

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

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

G. AWARD OF CONTRACT

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

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

39. Award Criteria

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

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

40.1 At the time of awarding the contract, the purchaser reserves the right to increase or decrease by up to fifty (50) per cent, the quantity of goods and services mentioned in the schedule (s) in the "List of Requirements" (rounded of to next whole number) without any change in the unit price and other terms & conditions quoted by the tenderer.

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

Further, Purchaser reserves the rights to delete any of the tendered items without assigning any reason whatsoever. Purchaser as deemed fit, out of the total tendered quantity for the tendered items may place Notification of Award for the quantity as per the requirements and may defer the balance quantity of the item(s) to be supplied later.

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/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 XV) duly completed and signed, in duplicate, to the successful tenderer by registered / speed post.

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

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

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

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

44. Return of E M D

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

45. Publication of Tender Result

45.1 The name and address of the successful tenderer(s) receiving the contract(s) will be mentioned in the notice board/bulletin/web site of the purchaser.

46. Corrupt or Fraudulent Practices

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

(a) defines, for the purposes of this provision, the terms set forth below as follows:

(i) “corrupt practice” means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution; and

(ii) “fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Purchaser, and includes collusive practice among Tenderers (prior to or after

Tender submission) designed to establish Tender prices at artificial non-competitive levels and to deprive the Purchaser of the benefits of free and open competition;

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

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

SECTION - III
SPECIAL INSTRUCTIONS TO TENDERERS
(SIT)

Sl. No.	GIT Clause No.	Topic	SIT Provision	Page No.
A	1 to 7	Preamble	No Change	28
B	8 to 10	TE documents	No Change	28
C	11 to 21	Preparation of Tenders	No Change	28
D	22 to24	Submission of Tenders	No Change	28
E	25	Tender Opening	No Change	28
F	26 to 27	Scrutiny and Evaluation of Tenders	No Change	28
G	36 to 46	Award of Contract	No Change	28

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.

Submission of Tenders

(i) All the necessary documents as prescribed in the NIT shall be prepared and scanned in different files (in PDF or JPEG format as prescribed) and uploaded for on-line submission of Proposal. However, physical documents as per NIT to be submitted in **"ORIGINAL"** to HSCC (India) Ltd. before the prescribed date & time for submission of physical tender restricted to the following documents only.

a) Demand Draft towards Tender Fee in favour of HSCC (India) Ltd.
b) EMD in the prescribed format in favour of HSCC (India) Ltd.
c) Technical Data Sheet and original technical literature/ Brochure (if any)
d) Affidavit as per Section XIX

(ii) All document(s)/ information(s) other than above including the Financial Proposal (i.e. FORMAT FOR SUBMISSION OF PRICE BID/FINANCIAL PROPOSAL) should be **uploaded online only** in the prescribed format given in the website. No other mode of submission shall be acceptable.

(iii)The prospective bidders may scan the documents in low resolution **(75 to 100 DPI)** instead of 200 DPI. The documents may be scanned for further lower resolution (if possible). This would reduce the size of the Cover and would be uploaded faster.

(iv) The prospective bidders may upload Drawing files, if any, in **".dwf" format** so that the size of document is less. This is a generic format and all software supports this format.

(v) At the time of cover content creation, the prospective bidders would have to define the document type as **".rar" format**.

(vi) The prospective bidders should be asked to zip all the .dwf files to a .rar file & upload it

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.
All documents submitted physically or uploaded as scanned copies must be self-attested, legible and numbered.

2. Use of contract documents and information

2.1 The supplier shall not, without the purchaser's prior written consent, disclose the contract or any provision thereof including any specification, drawing, sample or any information furnished by or on behalf of the purchaser in connection therewith, to any person other than the person(s) employed by the supplier in the performance of the contract emanating from this TE document. Further, any such disclosure to any such employed person shall be made in confidence and only so far as necessary for the purposes of such performance for this contract.

2.2 Further, the supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC sub-clause 2.1 above except for the sole purpose of performing this contract.

2.3 Except the contract issued to the supplier, each and every other document mentioned in GCC sub-clause 2.1 above shall remain the property of the purchaser and, if advised by the purchaser, all copies of all such documents shall be returned to the purchaser on completion of the supplier's performance and obligations under this contract.

3. Patent Rights

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

4. Country of Origin

4.1 All goods and services to be supplied and provided for the contract shall have the origin in India or in the countries with which the Government of India has trade relations.

4.2 The word "origin" incorporated in this clause means the place from where the goods are mined, cultivated, grown, manufactured, produced or processed or from where the services are arranged.

4.3 The country of origin may be specified in the Price Schedule

5. Performance Security

5.1 Within 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 (as applicable warranty period of 5 years) from the date of Notification of Award.

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

a) It shall be in any one of the forms namely Account Payee Demand Draft or Fixed Deposit Receipt drawn from any Scheduled bank in India or Bank Guarantee issued by a Scheduled bank in India, in the prescribed form as provided in section XV of this document in favour of the Purchaser/Consignee. The validity of the Fixed Deposit receipt or Bank Guarantee will be for a period up to sixty (60) days beyond Warranty Period.

5.3 In the event of any failure /default of the supplier with or with out any quantifiable loss to the government including furnishing of consignee wise Bank Guarantee for CMC security as per Proforma in Section XV, the amount of the performance security is liable to be forfeited. The Administration Department may do the needful to cover any failure/default of the supplier with or without any quantifiable loss to the Government.

5.4 In the event of any amendment issued to the contract, the supplier shall, within twenty-one (21) days of issue of the amendment, furnish the corresponding amendment to the Performance Security (as necessary), rendering the same valid in all respects in terms of the contract, as amended.

5.5 The supplier shall enter into Annual Comprehensive Maintenance Contract as per the 'Contract Form – B' in Section XVI with respective consignees, 3 (three) months prior to the completion of Warranty Period. The CMC will commence from the date of expiry of the Warranty Period.

5.6 Subject to GCC sub – clause 5.3 above, the Purchaser/Consignee will release the Performance Security without any interest to the supplier on completion of the supplier's all contractual obligations including the warranty obligations & after receipt of Consignee wise bank guarantee for CMC security in favour of Head of the Hospital/ Institute/ Medical College of the consignee as per the format in Section XV.

6. Technical Specifications and Standards

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

For Radiology, the equipment viz. CT Scan, MRI, Digiral Radiography, Digital Radio Fluoroscopy, Ultrasound, X-Ray Machines etc. Should be DICOM 3.0 enabled & complied with HL7 (Health Level 7) Standards. DICOM 3.0 provides reliable protocols for integration of image data between imaging, non-imaging modalities, devices & systems.

For Laboratory Equipment, equipment should be ASTM (American Society for Testing & Materials) compliant for integration of System Software with Lab. Records & Database.

Above standards are required for interfacing of equipment with PACS (Picture Archiving & Communication System) & HMIS (Hospital Management & Information System) during the computerization of the Hospital.

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-g 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 pre-dispatch inspections, inspections and, also the identity of the officials to be deputed for this purpose. The cost towards the transportation, boarding & lodging will be borne by the purchaser and/or its nominated representative(s).

8.2 The Technical Specification and Quality Control Requirements incorporated in the contract shall specify what inspections and tests are to be carried out and, also, where and how they are to be conducted. If such inspections and tests are conducted in the premises of the supplier or its subcontractor(s), all reasonable facilities and assistance, including access to relevant drawings, design details and production data, shall be furnished by the supplier to the purchaser's inspector at no charge to the purchaser.

8.3 If during such inspections and tests the contracted goods fail to conform to the required specifications and standards, the purchaser's inspector may reject them and the supplier shall either replace the rejected goods or make all alterations necessary to meet the specifications and standards, as required, free of cost to the purchaser and resubmit the same to the purchaser's inspector for conducting the inspections and tests again.

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

8.5 If the supplier tenders the goods to the purchaser's inspector for inspection at the last moment without providing reasonable time to the inspector for completing the inspection within the contractual delivery period, the inspector may carry out the inspection and

complete the formality beyond the contractual delivery period at the risk and expense of the supplier. The fact that the goods have been inspected after the contractual delivery period will not have the effect of keeping the contract alive and this will be without any prejudice to the legal rights and remedies available to the purchaser under the terms & conditions of the contract.

8.6 The purchaser's/consignee's contractual right to inspect, test and, if necessary, reject the goods after the goods' arrival at the final destination shall have no bearing of the fact that the goods have previously been inspected and cleared by purchaser's inspector during pre-despatch inspection mentioned above.

8.7 Goods accepted by the purchaser/consignee and/or its inspector at initial inspection and in final inspection in terms of the contract shall in no way dilute purchaser's/consignee's right to reject the same later, if found deficient in terms of the warranty clause of the contract, as incorporated under GCC Clause 15.

8.8 Principal/ Foreign supplier shall also have the equipment inspected by recognised/ reputed agency like SGS, Lloyd, 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 specified in the contract.

10. Transportation of Goods

10.1 Instructions for transportation of imported goods offered from abroad:

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

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

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

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

11. Insurance:

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

i) in case of supply of domestic goods on Consignee site basis, the supplier shall be responsible till the entire stores contracted for arrival in good condition at destination. The transit risk in this respect shall be covered by the Supplier by getting the stores duly insured 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 be got extended by the supplier at their cost till the successful installation, testing, commissioning and handing over of the goods to the consignee. In case the delay in the installation and commissioning is due to handing over of the site to the supplier by the consignee, such extensions of the insurance will still be done by the supplier, but the insurance extension charges at actuals will be reimbursed.

12. Spare parts

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

a) The spare parts as selected by the Purchaser/Consignee to be purchased from the supplier, subject to the condition that such purchase of the spare parts shall not relieve the supplier of any contractual obligation including warranty obligations; and

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

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

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

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

13. Incidental services

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

i) Installation & commissioning, Supervision and Demonstration of the goods
ii) Providing required jigs and tools for assembly, minor civil works required for the completion of the installation.
iii) Training of Consignee's Doctors, Staff, operators etc. for operating and maintaining the goods
iv) Supplying required number of operation & maintenance manual for the goods

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

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

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

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

Within 24 hours of despatch, the supplier shall notify the purchaser, consignee, and others concerned if mentioned in the contract, the complete details of despatch and also supply the following documents to them by registered post / speed post (or as instructed in the contract):

(i) Four copies of supplier's invoice showing contract number, goods description, quantity, unit price and total amount;
(ii) Consignee Receipt Certificate as per Section XVI in original issued by the authorized representative of the consignee;
(iii) Two copies of packing list identifying contents of each package;
(iv) Inspection certificate issued by the 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 (*except when the design adopted and / or the material used are as per the Purchaser's/Consignee's specifications*) or workmanship or from any act or omission of the supplier, that may develop under normal use of the supplied goods under the conditions prevailing in India.

15.2 The **warranty** shall remain valid for **60 months** from the date of installation & commissioning followed by a **CMC for a period of 5 (Five) Years** for all the equipments after the goods or any portion thereof as the case may be, have been delivered to the final destination and installed and commissioned at the final destination and accepted by the purchaser/CONSIGNEE in terms of the contract, unless specified otherwise in the SCC.

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:-

- X-ray and CT tubes and high-tension cables.
- Helium replacement
- Any kind of motor.
- Plastic & Glass Parts against any manufacturing defects.
- All kind of sensors including oxygen sensors.
- All kind of coils, probes and transducers
- All kind of flat panel sensors and cassettes for DR & CR systems and patients handling trolleys etc
- Printers and imagers including laser and thermal printers with all parts.
- UPS including the replacement of batteries.
- Air-conditioners

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 to a further period of sixty (60) months from the date such rectified / replaced goods starts functioning to the satisfaction of the purchaser.

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

15.7 During Warranty period, the supplier is required to visit at each consignee's site at least once in 3 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 final acceptance of the contracted goods to the purchaser. However, for goods directly imported shall be guided by the INCOTERM.

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:

80% 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 XVI in original issued by the authorized representative of the consignee;
(iii) Two copies of packing list identifying contents of each package;
(iv) Inspection certificate issued by the 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 20% 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. Final acceptance certificate will be released by the consignee on completion of installation, commissioning, training, successful running of equipment (at least 2-3 weeks) and handing over the equipment to the consignee.

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:

80% 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, TUV & Beauru Varitus, prior to despatch.

b) On Acceptance:

Balance payment of 20% of net CIP price of goods would be made against 'Final Acceptance Certificate' as per Section XVII 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. Final acceptance certificate will be released by the consignee on completion of installation, commissioning, training, successful running of equipment (at least 2-3 weeks) and handing over the equipment to the consignee.

c) **Payment of Incidental Costs** till consignee site & Incidental Services (including Installation & Commissioning, Supervision, Demonstration and Training) will be paid in Indian Rupees to the Indian Agent on proof of final installation, commission and acceptance of equipment by the consignee.

d) **Payment of Indian Agency Commission:** Indian Agency commission will be paid to the manufacturer"s agent in the local currency for an amount in Indian rupees indicated in the relevant Price Schedule (as per prevailing rate of exchange ruling on the date of Contract) and shall not be subject to further escalation / exchange variation.

C) Payment of Turnkey, if any:

Turnkey payment will be made to the manufacturer's agent in Indian rupees indicated in the relevant Price Schedule (as per prevailing rate of exchange ruling on the date of Contract) and shall not be subject to further escalation / exchange variation.

D) Payment for Annual Comprehensive Maintenance Contract Charges:

The consignee will enter into CMC with the supplier at the rates as stipulated in the contract. The payment of CMC will be made on six monthly basis after satisfactory completion of said period, duly certified by the consignee on receipt of bank guarantee for

an amount equivalent to 2.5 % of the cost of the equipment as per contract in the prescribed format given in Section XV valid till 2 months after expiry of entire CMC period.

21.2 The supplier shall not claim any interest on payments under the contract.

21.3 Where there is a statutory requirement for tax deduction at source, such deduction towards income tax and other tax as applicable will be made from the bills payable to the Supplier at rates as notified from time to time.

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

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

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

21.7 While claiming payment, the supplier is also to certify in the bill that the payment being claimed is strictly in terms of the contract and all the obligations on the part of the supplier for claiming that payment has been fulfilled as required under the contract.

21.8 While claiming reimbursement of duties, taxes etc. (like sales tax, excise duty, custom duty) from the Purchaser/Consignee, as and if permitted under the contract, the supplier shall also certify that, in case it gets any refund out of such taxes and duties from the concerned authorities at a later date, it (the supplier) shall refund to the Purchaser/Consignee forthwith.

21.9 In case where the supplier is not in a position to submit its bill for the balance payment for want of receipted copies of Inspection Note from the consignee and the consignee has not complained about the non-receipt, shortage, or defects in the supplies made, balance amount will be paid by the paying authority without consignee's receipt certificate after three months from the date of the preceding part payment for the goods in question, subject to the following conditions:

(a) The supplier will make good any defect or deficiency that the consignee (s) may report within six months from the date of despatch of goods.
(b) Delay in supplies, if any, has been regularized.
(c) The contract price where it is subject to variation has been finalized.
(d) The supplier furnishes the following undertakings:

"I/We, _____ certify that I/We have not received back the Inspection Note duly receipted by the consignee or any communication from the purchaser or the consignee about non-receipt, shortage or defects in the goods supplied. I/We ____ agree to make good any defect or deficiency that the consignee may report within three months from the date of receipt of this balance payment.

22. Delivery/Delay in the supplier's performance

22.1 The supplier shall deliver of the goods and perform the services under the contract within the time schedule specified by the Purchaser/Consignee in the List of Requirements and as incorporated in the contract. 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 any or all of the goods or fails to perform the services within the time frame(s) incorporated in the contract, the Purchaser/Consignee shall, without prejudice to other rights and remedies available to the

Purchaser/Consignee under the contract, deduct from the contract price, as liquidated damages, a sum equivalent to 0.5% per week of delay or part thereof on delayed supply of goods and/or services until actual delivery or performance subject to a maximum of 10% of the contract price. Once the maximum is reached Purchaser/Consignee may consider termination of the contract as per GCC 24.

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

24. Termination for default

24.1 The Purchaser/Consignee , without prejudice to any other contractual rights and remedies available to it (the Purchaser/Consignee), may, by written notice of default sent to the supplier, terminate the contract in whole or in part, if the supplier fails to deliver any or all of the goods or fails to perform any other contractual obligation(s) within the time period specified in the contract, or within any extension thereof granted by the Purchaser/Consignee pursuant to GCC sub-clauses 22.3 and 22.4.

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

24.3 Unless otherwise instructed by the Purchaser/Consignee, the supplier shall continue to perform the contract to the extent not terminated.

25. Termination for insolvency

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

26. Force Majeure

26.1 Notwithstanding the provisions contained in GCC clauses 22, 23 and 24, the supplier shall not be liable for imposition of any such sanction so long the delay and/or failure of the supplier in fulfilling its obligations under the contract is the result of an event of Force Majeure.

26.2 For purposes of this clause, Force Majeure means an event beyond the control of the supplier and not involving the supplier's fault or negligence and which is not foreseeable and not brought about at the instance of , the party claiming to be affected by such event and which has caused the non – performance or delay in performance. Such events may include, but are not restricted to, acts of the Purchaser/Consignee either in its sovereign or contractual capacity, wars or revolutions, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes excluding by its employees , lockouts excluding by its management, and freight embargoes.

26.3 If a Force Majeure situation arises, the supplier shall promptly notify the Purchaser/Consignee in writing of such conditions and the cause thereof within twenty one days of occurrence of such event. Unless otherwise directed by the Purchaser/Consignee in writing, the supplier shall continue to perform its obligations under the contract as far as reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

26.4 If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of Force Majeure for a period exceeding sixty days, either party may at its option terminate the contract without any financial repercussion on either side.

26.5 In case due to a Force Majeure event the Purchaser/Consignee is unable to fulfil its contractual commitment and responsibility, the Purchaser/Consignee will notify the supplier accordingly and subsequent actions taken on similar lines described in above sub-paragraphs.

27. Termination for convenience

27.1 The Purchaser/Consignee reserves the right to terminate the contract, in whole or in part for its (Purchaser's/Consignee 's) convenience, by serving written notice on the supplier at any time during the currency of the contract. The notice shall specify that the termination is for the convenience of the Purchaser/Consignee. The notice shall also indicate interalia, the extent to which the supplier's performance under the contract is terminated, and the date with effect from which such termination will become effective.

27.2 The goods and services which are complete and ready in terms of the contract for delivery and performance within thirty days after the supplier's receipt of the notice of termination shall be accepted by the Purchaser/Consignee following the contract terms, conditions and prices. For the remaining goods and services, the Purchaser/Consignee may decide:

a) To get any portion of the balance completed and delivered at the contract terms, conditions and prices; and / or

b) To cancel the remaining portion of the goods and services and compensate the supplier by paying an agreed amount for the cost incurred by the supplier towards the remaining portion of the goods and services.

28. Governing language

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

29. Notices

29.1 Notice, if any, relating to the contract given by one party to the other, shall be sent in writing or by cable or telex or facsimile and confirmed in writing. The procedure will also provide the sender of the notice, the proof of receipt of the notice by the receiver. The addresses of the parties for exchanging such notices will be the addresses as incorporated in the contract.

29.2 The effective date of a notice shall be either the date when delivered to the recipient or the effective date specifically mentioned in the notice, whichever is later.

30. Resolution of disputes

30.1 If dispute or difference of any kind shall arise between the Purchaser/Consignee and the supplier in connection with or relating to the contract, the parties shall make every effort to resolve the same amicably by mutual consultations.

30.2 If the parties fail to resolve their dispute or difference by such mutual consultation within twenty-one days of its occurrence, then, unless otherwise provided in the SCC, either the Purchaser/Consignee or the supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided the applicable arbitration procedure will be as per the Arbitration and Conciliation Act, 1996 of India. In the case of a dispute or difference arising between the Purchaser/Consignee and a domestic Supplier relating to

any matter arising out of or connected with the contract, such dispute or difference shall be referred to the sole arbitration of an officer in the Ministry of Law and Justice, appointed to be the arbitrator by **Medical Superintendent, Safderjung Hospital, New Delhi**. 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.

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

34.1 Further to GIT Clause 34 above, the purchaser's evaluation of a tender will include and take into account the following:

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

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

34.2 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.

34.3 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.

i. 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 L1 price, in a situation where L1 price is from someone other than on 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 L1 price, the 4% quantity earmarked for MSEs owned by SC/ST entrepreneurs will be met from other participating MSEs.

ii. 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 on MSE, failing which their tender will be liable to be ignored.

SECTION – V

SPECIAL CONDITIONS OF CONTRACT (SCC)

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

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

SECTION - VI
LIST OF REQUIREMENTS

Part I

S. No.	Equipment Details	Qty./ Requirements	EMD (Rs.)
	For Radiology Deptt. at New Emergency Block		
1	3 Tesla MRI Unit	1 no. for Emergency Block	20,00,000.00
2	256-Slice CT Scan	1 no. for Emergency Block	20,40,000.00
3	Bi-Plane DSA	1 no. for Emergency Block	13,00,000.00
4	Digital Radio Fluoroscopy System	1 no. for Emergency Block	4,00,000.00
5	Digital Flat Panel Radiography System	2 no. for Emergency Block	7,00,000.00
6	Portable Flat Panel Radiography System	2 no. for Emergency Block	3,40,000.00
7	High End Colour Doppler USG with Biopsy	2 no. for Emergency Block	3,20,000.00
8	Portable Ultrasound with Color Doppler System	2 no. for Emergency Block	1,60,000.00
9	Color Ultrasound Machine with Biopsy	1 no. for Emergency Block	70,000.00
	Pulmonary, Critical Care & Sleep Medicine at New Super-Specialty Block		
10	Ultrasound-cum-Echo Colour Doppler	5 no. ICU + 1 no. for Pulmonary Care of Super-Specialty Block = 6 no.	2,60,000.00
11	Sleep Lab	1 no. for Pulmonary Care of Super-Specialty Block	40,000.00
12	Portable Sleep Lab.	1 no. for Pulmonary Care of Super-Specialty Block	10,000.00
13	Actigraph	2 no. for Pulmonary Care of Super-Specialty Block	20,000.00
14	Precison Spirometer	4 no. for Pulmonary Care of Super-Specialty Block	32,000.00

15	Video Bronchoscope	1 no. for Pulmonary Care of Super-Specialty Block	50,000.00
16	Flexi-Rigid Video Thoracoscope	1 no. for Pulmonary Care of Super-Specialty Block	60,000.00
17	Rigid Bronchoscope	2 no. for Pulmonary Care + 2no. for Cardiac Surgery of Super-Specialty Block	52,000.00
18	Pulse Oximeter	2 no. ICU + 15 no. for Pulmonary Care of Super-Specialty Block = 6 no.	31,200.00
19	Pulse Oximeter cum Capnograph	10 no. for Pulmonary Care of Super-Specialty Block	40,000.00
20	Haemodialysis Machine (Hybrid) & for Continuous Renal Replacement Therapy	1 no. for Pulmonary Care of Super-Specialty Block	26,000.00
21	Endo-bronchial System (EBUS)	1 no. for Pulmonary Care of Super-Specialty Block	1,40,000.00
22	IABP (Intra-Aortic Balloon Pump)	1 no. for Pulmonary Care of Super-Specialty Block	40,000.00
23	Pulmonary Rehabilitation System Consisting of: -Active Passive Trainer -Chest Vibrator -EMG Bio-feedbabk -Movement Therapy for Patient in Spine Position -Pulmonary Rehabilitation Treadmill -Semi-Recumbent Ergometer -Upper Body Cycle	1 no. for Pulmonary Care of Super-Specialty Block	1,00,000.00
24	Non-Invasive Ventilator	10 no. for Pulmonary Care of Super-Specialty Block	80,000.00
25	Extra Corporeal Membrane Oxygenator System	Lot for Pulmonary Care of Super-Specialty Block	1,20,000.00
26	Transcutaneous PO_2 & PCO_2 Monitor	5 no. for Pulmonary Care of Super-Specialty Block	50,000.00

Part II: Required Delivery Schedule:

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

60 days from date of Notification of Award except, for MRI, CT Scan, DR System, DRF System, DSA, Gamma Knife, Gamma Camera, PET CT, Cath Lab. for which the delivery period will be 90 days from date of Notification of Award. The date of delivery will be the date of delivery at consignee site (Tenderers may quote earliest delivery period).

b) For Imported goods directly from foreign:

60 days from date of opening of L/C except, for MRI, CT Scan, DR System, DRF System, DSA, Gamma Knife, Gamma Camera, PET CT, Cath Lab. for which the delivery period will be 90 days from date of opening of L/C. The date of delivery will be the date of Bill of Lading/Airway Bill. (Tenderers may quote earliest delivery period).

c) Installation & commissioning within 15 days of receipt of goods at site except for MRI, CT Scan, DR System, DRF System, DSA, Gamma Knife, Gamma Camera, PET CT, Cath Lab. for which installation & commissioning to be done within 90 days of receipt of goods at site.

Note: Indigenous goods or imported goods if supplied from India (offered in INR) which are linked with supply of directly imported goods are to be supplied within the contractual delivery period as stated in para b) above.

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 & Comprehensive Maintenance Contract (CMC) as per bid document.

Part VI:

Required Terms of Delivery and Destination.

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

At Consignee Site – Specified in the List of Requirements
Insurance (local transportation and storage) would be borne by the Supplier from ware house to the consignee site for a period including 3 months beyond date of delivery

b) For Imported goods directly from abroad:

The foreign tenderers are required to quote their rates on CIP Named Port of Destination Basis giving break up of the price as per the Proforma prescribed in the Price Schedule. Purchaser will place the order on DDP Consignee basis. The shipping arrangements shall be made by the supplier accordingly.

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.

Consignee/destination details as mentioned in Section-XXI.

Section – VII
Technical Specifications

Technical Specifications
(MRI 3.0 T)

Sr. No.	Specification as per Tender
	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 of latest technology and should not contain refurbished or having recycled items.
1.	**MAGNET**
	a. 3.0T active shielded super conductive magnet with best homogeneity. Field stability over 24 hours should be < or equal to 0.2 ppm/hr
	b. Length should be short with at least 70cm wide bore.
	c. It should have facilities of better illumination ventilation and designed to avoid patient claustrophobia.
	d. 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.
	e. Please specify upto what FOV gradient linearity is maintained.
	f. 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.
	g. 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.
	h. Helium level monitoring equipment in the magnet and facility for appropriate quick shutdown of the magnet in the event of emergency should be available.
	i. Helium refill time should not be < 2years. Please mention the helium refill time.
	j. Noise level inside the examination room should be as minimum as possible. Specify db level k. Physiological signal display on Gantry
	l. Built - in 2 way Intercom facility to communicate with patient is required
	m. Emergency helium release button should be provided at least in two places [inside MR examination room and console room]
2.	**SHIM SYSTEM**
	a. 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
	b. Off-centre shimming should be possible.
	c. Auto shim (global and voxel shim) should take minimum time to shim the magnet with patient in position.
3.	**GRADIENT SYSTEM**
	a. Actively 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.
	b. These true slew rates should be available in each axis independently, for overall better duty cycle performance of the gradient.
	c. The duty cycle should be 100 percent.
	d. The Gradient system should have provision for eddy current compensation. Mention level of Eddy current compensation in %
	e. Field of View should be at least 45 cm in all three axes.

	f. Minimum TE & TR in 2D/3D should be specified in relation to the sequences.
	g. Minimum Slice Thickness in 2D & 3D should be specified in relation to the sequences.
	h. Echo Train length in both Spin echo and Gradient Echo should be at least 255 or more.
	i. The measurement matrix should be from 128x128 to 1024x1024 in both 2D and 3Dimaging as well.
4.	**RF SYSTEM**
	a. A fully digital RF system capable of transmitting power of at least 25 KW or more **DUAL RF power** amplifiers. System should be capable of Multi Transmit with Multi amplifier driving for better B1 homogeneity.
	b. 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)
	c. 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 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) 1) 32 channels or more head coil-capable of multi frequency MR spectroscopy (1H). 2) Dedicated Multinuclear/ Multi-frequency MR Spectroscopy Coil capable of 31-P Spectroscopy should be quoted separately as an OPTIONAL item.
	b) Neck phased array 8 channels alone or in combination should have 12 channels **or** more in the imaging FOV
	c) Neurovascular coil 8 channels alone or in combination should have 12 channels **or** more in the imaging FOV
	d) Spine phased array coil 32 channels or more
	e) Body phased array coils 32 channels of more (single or in combination) at least 45 cm z-axis coverage for imaging of abdomen, with at least 32 channels acquisition for body parts.
	f Suitable Coil /Coil combination for

	) Peripheral Angiography 32 channels or more; with coverage of 80cm or more.	
	g) **Carotid Coil:** 1. Suitable Carotid coil as standard. 2. Dedicated third party Coil for Carotid imaging to be quoted separately as an OPTIONAL item**;** if available.	
	h) Breast coil 16 channel or more capable of spectroscopy	
	i) **Cardiac Coil:** a) Suitable Phased array coil for faster and high resolution Cardiac imaging – 32 channels or more with Proton Spectroscopy. b) Non-Proton Spectroscopy Cardiac Coil – for 31 P Spectroscopy should be quoted separately as an OPTIONAL item.	
	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 8 channels or more; Tx & Rx.	
	l) High resolution foot/ ankle coil – 8 channel or more	
	m) PROVIDE THE LIST AND NUMBER OF ALL RECEIVER COILS QUOTED.	
	The supplier should quote coils or their combinations exclusively for each application. The number of coils should be thus mentioned as independent and not be having overlapping applications.	
6.	**PATIENT TABLE**	
	a. The table should be fully motorized, MRI Compatible computer controlled table movement in vertical and horizontal directions Position accuracy should be +/- 1.0 mm or better.	
	b. Should be able to take at least 140 kg load.	
	c. The table should have facility for manual traction in case of emergency.	
	d. Cushions and other patient comfort accessories. All parts of the table should be protected from liquid spill	
	e. The table should have patient auto alarm system.	
	f. The CCTV system with LCD display to observe the patient.	
	g. The table should deliver the protocols for automatic bolus chasing in peripheral angio with automatic table movement.	
7.	**COMPUTER SYSTEM IMAGE PROCESSOR / OPERATOR CONSOLE**	
	a. Computer should be latest in the industry, fast and efficient	
	b. One colour console for acquisition, all calculations, post processing etc Console must have full colour with user define protocols with programmable inter scan delay. Necessary 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.
	c. 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 colour monitor.
	d. The main console should have facility for music system for the patient in the magnet room.
	e. Filming and adequate storage for images and other applications .
	f. Total hard disk memory to be sufficient to store at least 250,000 images of 256 x 256 matrix data size. The system should have CD/DVD archiving facility on the main console and work station.
	g. **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.
	h. There should be a provision of retrieval of the reconstruction data (raw files) in an user friendly manner.
	i. 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.
	j. The system should be capable to connect to PACS through RIS/HIS at no extra cost. Highest version of DICOM connectivity to be provided.
8.	**WORKSTATION**
	1. One thin client server to serve 5 concurrent licenses to be supplied with the system. Licenses: Concurrent license here implies the capability to process all the loaded software to be accessible and usable on all the 5 systems simultaneously without any processing delay. The software should also include a reputed antivirus software of a perpetual type or renewed by the supplier. **Hardware: Node:** Out of the 5 concurrent licenses (software), the vendor has to supply the hardware in the form of CPU and Medical grade monitor (18" or more; 2 megapixels or more resolution) for 5 nodes. **Hardware: Server:** The server (single/dual configuration) should have image storage capacity of at least 3 Terra bytes, minimum 40,000 concurrent slice processing power and at least 64GB RAM. The server hardware to be included with 18" or more TFT/LCD monitor with dual processor. DICOM 3.0 compatibility and interfacing with other modalities must be possible. The workstation shall have the resolution, software and all functionality of a stand-alone workstation.
	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 fibre tracking, cardiac evaluation, and other associated post processing like MIP, MPR, surface reconstruction should be provided.
	The workstation should have the following features:
	a. Cardiac perfusion analysis & Processing of Real Time BOLD imaging data, with colour metabolite mapping, quantification of the CSF flow data.
	b. Image Fusion software should be provided for Inter-modality and Intra-modality fusion.
	c. Software for vascular properties like IAUC, KEP as standard.

	d. DSA images should be viewable in Subtraction mode.
	e. 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.
	f. Workstation should also be able to function independent of the main console.Post processing of the MRS data including for CSI with paramagnetic metabolic mapping.
	g. Capability to calculate colour display of real MTT, real CBV, and real CBF.
	h. Compatibility with data from other MRI system for post processing.
	i. Output in the form of jpeg, avi / equivalent formats should be possible.
	Cardiac Package: 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. Diffusion tensor Imaging, 3D myocardial tagging should be possible.
9.	**DATA ACQUISITION**
	a. 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.
	b. 2D multi-slice imaging should be possible in all planes (axial, sagital, coronal, oblique arid double oblique).
	c. 512 x 512 matrix acquisition for all applications; (1024 x 1024 matrix acquisition to be offered wherever available.)
	d. Half Fourier or other techniques to reduce scan acquisition time while maintaining adequate SNR
	e. 3D volume, multiple contiguous slabs, multiple interleaved and multiple overlapping slabs
	f. Slice thickness in 2D and partition in 3D to be freely selectable
	g. Dynamic acquisition (serial imaging) with capability to initiate scan sequences either from the magnet panel or from the console.
	h. Dynamic acquisition number of repeat scans with delay time either identical time interval or selectable.
	i. Auto slices positioning from the localizer images.
	j. Maximum -off centre positioning both anterior-posterior and lateral direction and should be selectable.
	k. Gating: physiological signals like ECG, pulse, respiratory, external signal triggering (interface for triggering input pulse from external source).
	l. Simultaneous acquisition, processing and display of image data in 2D multi-slice mode.
	m. Selection of voxel from oblique slices should be possible while doing spectroscopy.
	n. The application software for image smoothing and edge sharpness etc. for improvement in image resolution should be quoted.
	o. Artifact reduction/motion correction techniques/imaging enhancement/image

	filtering/image subtraction/addition multiplication/division techniques:
	p. Flow 1st and 2nd order flow artifact compensation.
	q. Presentation slabs: a number of relocatable saturation bands to be placed either inside or outside the region of interest.
	r. Magnetization transfer saturation: Off resonance RF pulses to suppress signals from stationary tissue in FOV phase contrast capability in 2D & 3D mode.
	s. Breath Hold Acquisition for Cardiac and Abdominal Imaging must be possible.
	t. 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.
	u. Magnetization transfer saturation; OFF-resonance RF pulses to suppress signals from stationary issue in FOV.
	v. Phase contrast capability in 2D and 3D mode.
	w. Image intensity correction.
	x. Breath hold acquisition
10.	**EPI MODE**
	a. Single and multi shot EPI imaging techniques.
	b. Data acquisition in all three standard planes (axial, sagittal coronal) and oblique and double oblique planes
	c. Multi-coil acquisition in order to optimize throughput increase and increased effective FOV. Individual acquisition of every coil should be mentioned.
	d. 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.
	e. BOLD, SWI, T2 Perfusion (with all post processing licences as standard)
	f. Susceptibility-weighted Phase Imaging to differentiate calcification & haemorrhage.
	g.
11.	**IMAGING SEQUENCES**
	a. The system should be capable of selecting TR and TEs as per requirement in majority of the pulse sequences.
	b. 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.
	c. Inversion recovery (IR) including short TI, modified IRSE, FLAIR, DIR (Double Inversion Recovery) MT and FLAIR.
	d. Gradient echo (GE) 3D gradient echo with shortest TR and TE, free choice of flip angle selection while maintaining SNR
	Fast Sequences
	a. 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.
	b. Half Fourier acquisition capabilities should be available with/ without diffusion gradients and in combination with fast spin echo.
	c. Fast inversion recovery with spin echo.
	d. 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.
	e. Fast gradient echo sequence should be provided to acquire images in ultra-fast 2D and 3D mode.
	f. 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.
	g. 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.
	h. NON Contrast Angiography like Native, Inhance, Trance for whole body applications to be quoted as standard.
	i. Contrast bolus tracking (including single shot whole body MRA, interactive and automatic, etc.
	J1. 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 colour metabolite maps should be available.
	J2. 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, Myocardial tagging, Cardiac functions including EF, ED/ES volume, Cardiac output, and wall thickness. This processing can be in workstation.
	k. Sequence package for diffusion study including DTI (tractography) in organs like brain, kidney, muscle, heart **etc** if available .
	l. 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.
	m. Sequences for MRI imaging of joints with Metal implants like WARP/Maverick should be offered
	n. Hardware and sequences post processing software for MR Elastography of abdomen.
	o. Contrast Kinematics like TWIST / TRICKS / 4DTRAK should be offered.
	p. Colour T2 mapping of cartilage should be offered .
	q. Image fusion should be offered
	r. Whole body imaging of 200 cm should be offered
	s. Programming environment under research agreement should be offered for creating and modifying pulse sequences and working on the system.
	t. Flow quantification in vessels and CSF, hepatobiliary system.
	u. MRI neurofunctional imaging sequence including BOLD/ Mosaic etc.
	v. Optimized breath hold sequences for abdominal studies including angiogram.
	w. Sequence package for functional mapping of brain.
	x. Internal ear imaging. 3D acquisitions like CUBE. SPACE, VISTA to be quoted as

	standard.
	aa. Susceptibility Weighted imaging should be provided as essential.
	bb. High SNR even in small FOV should be available. (Specify the details of the smallest FOV and the technique)
	cc. Non Contrast perfusion Imaging software like 2D-ASL / 3 D ASL and its post processing should be offered.
	dd. MR Cholangiography and Pancreatogram: Both breath-hold and respiratory triggered - Specialized sequences and processing to perform MRCP.
	ee. Pulmonary 2D/3D MRA sequence, including single breath hold sequence.
	ff. MR ventriculography and Cisternography, Myelography.
	gg. Parallel acquisition technique such as SENSE/SMASH/ASSET/ GRAPPA , iPAT, ARC and other new sequences to be quoted as standard.
	hh. 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.
	ii. 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.
12.	**IMAGING SEQUENCES**
	a. MRS: Proton (1H) MRS- Single voxel (SV), Multi-voxel CSI -2D and 3D- in both short and long TE
	b. Specify future upgradability for 23Na & 13C MRS with necessary hardware/coil.
	c. Fat and iron quantification of liver: standard
13.	**POST PROCESSING AND EVALUATION**
	a. 3DMultiplanar reconstruction (MPR) in any arbitrary plane including curved planes with freely selectable slice thickness and slice Increments.
	b. 3D Surface reconstruction and evaluation on reconstructed images with minimum time.
	c. MIP in 2D and 3D mode, targeted/segmented MIP in any orthogonal axis with minimum processing time and capable of displaying in cine mode.
	d. 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 with standard cardiology reporting set in BullsEye method. Blood flow quantification, velocity mapping, pressure gradient quantification shunt quantification, regurgitation calculation, stenosis blood flow, etc. These should be usable on the work station. Evaluation and display of diffusion images, fMRI reference of EPI optimized sequence.
	e. Full Perfusion imaging with necessary post processing with time intensity graph and other statistical parameters.
	f. 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
	g . Full post processing for SVS, CSI, metabolic mapping with colour coding for BRAIN, BREAST, LIVER & PROSTRATE.
	h. 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.
14.	**UPS**
	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.
15.	**DOCUMENTATION**
	a. The dry imager system should have digital DICOM 3.0 dry chemistry camera with resolution of 16 bits/500 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, 11 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.
	b. A colour laser printer for printing colour images and protocols on plane in 1200 dpi resolution and more than 20 ppm.
16.	**ACCESSORIES**
	1. Storage box for all coils
	3. Dual Syringe Pressure injector : Independent dual-Syringe Pressure injector with following Features; Non-ferrous, automatic syringe size detection, performs single and 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
	3. MRI Compatible ECG leads (with300 no.s Disposable Electrodes for MRI Image gating)
	4. MRI Compatible Pulse oximeter with MRI Compatible Adult & Paediatric Probes and Electrodes ; Adult probe – 2 no.s , Paediatric Probe – 2 no.s)
	5. MRI Compatible Anaesthesia Machine with integrated Ventilator, 2 vaporiser, circle absorber
	a) Capable of ventilating adult, pediatric and neonates.
	b) Soft ware 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
	6. One MRI compatible Multiparmeter Vital Signs Patient Monitor in MRI Room and One Slave monitor in console room with following modules provision to monitor the following -

	a. Heart rate
	b. ECG
	c. NIBP – Size of Cuffs (adult & pediatric neonatal)
	d. Respiration (Capnograph)
	e. Two IBP – Pressure transducer with the MRI compatible stand.
	f. Oxygen saturation – Pulse oximeter with adult, pediatric probe, and neonatal probes - 2 sets (with the spare probes), Should have plethysmograph perfusion factor.
	g. ETCO2 and ETAA (end tidal anesthetic agents)
	h. Temperature (adult and pediatric)
	7. MRI compatible infusion pump – 3 Nos.
	8. Arrangement of Gas lines in recovery room and magnet room – MRI compatible high pressure gas outlet for : a. Oxygen b. Air c. Nitrous Oxide with MRI compatible indexed system. d. Vacuum suction
	9. MRI Compatible 2 sets of Laryngoscope :4 sizes blades- Neonatal, paediatrics, adult, extra large.
	10. MRI compatible Magill forceps : Adult & paediatric size- Two each.
	11. Stylet for endotracheal tube : Ault, paediatric size- Three each
	12. MRI compatible Clamps 2 Nos : Either towel clip or artery forceps.
	13. MRI Compatible two IV stands. (if not provided already)
	14. MRI compatible suction apparatus - 2 No.s
	15. Two Anaesthesia bed/trolley for recovery.
	16. Non magnetic IV stand.
	17. Two non-magnetic patient transfer trolleys should be provided
	18. Metal detectors three in number, two of which are hand held.
	19. Phantoms to be provided for regular QA studies.
	20. 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 for three months and as and when required.
18.	**STANDARD AND SAFETY**
	Should be FDA and CE approved product.
19.	**GUARANTEE**
	5 years guarantee with 98% uptime maintenance clause of complete MRI system along with all accessory equipment supplied against the order including turn key works i.e. Camera, AC, Chiller, UPS etc. The warranty should start from the day of complete satisfactory installation of equipment. The warranty will be extended by double the down time in excess of 2%. A clear cut undertaking to be given regarding acceptance of uptime clause by the principal/vendor
20.	**SERVICE**

	After warranty CMC for next Five years for complete MR system including all items for which order is placed and turn key works and all that is supplied with the system.CMC period wll have a 98% uptime clause. CMC will be extended by double the down time in excess of 2%.. A clear cut undertaking to be given regarding acceptance of uptime clause by the principal/vendor
21.	**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 page number of Soriginal 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 is liable to be rejected. The offered unit must be FDA and CE approved. All operating, service and technical manuals of main and sub system must be supplied in duplicate.
22.	**TURN KEY INSTALLATION**
	a. 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.
	b. All necessary interconnecting interfaces, cable, modules, and other hardware and software to fully integrate the system for full operational status.
23.	Area details and turnkey specifications will be submitted later when the site is physically handed over to the end user.

Technical Specifications
(CT 256 Slice)

Sr. No.	Specifications as per tender
	The system quoted should be latest state of art top of the line with the features of latest RSNA (2014 or later) release. The system to be of 128 or more physical rows of detectors with dual energy application. The scanner should be capable of comprehensive whole body imaging including cardiac, abdomen, neuro and vascular imaging applications, true isotropic volume acquisition. It should also be capable of 3-D reconstructions at fast speeds, quantitative calcium scoring in the vessels using all documented quantification algorithms, 3-D image display during acquisition on-line as well as real time, 3-D vessel imaging with feasibility for volume rendering. Please note that if new technological developments occur and an upgraded system becomes available between the notification of this tender and the time of finalization of the bid, then the newer upgraded version shall be supplied at the rates quoted. The AERB compliance for the equipment and its installation would be the responsibility of the supplier.
	The offer should meet the specifications as followed:
1.	**Gantry:**
	a. The CT Scanner should have low Voltage Slip Rings incorporated in the Gantry
	b. The Minimum scan time for a 360 Degree rotation should be less than or equal to 0.35 seconds.
	d. The gantry should be provided with User control panels on either side for easy positioning.
	d. The sub millimetre Slice @ 0.63 mm or less in 128 rows or more of detector with 256 or more acquisitions should be available. The system should be in position to perform256 acquisition Slices/ Rotation for general, cardiac/vascular applications. (Specify the submillimetre slice thickness in millimetres)
	f. The Gantry should have 3D Positioning Laser lights.
	g. The Scan field of view (FOV) in acquisition mode should be at least from 200 mm to 500 mm with intermediate Steps for scanning different anatomies.
	h. Aperture should be at least 70 cm diameter.
2.	**X ray Section:**
	a. The X ray Generator should be compact and inbuilt in the Gantry.
	b. The System X ray power should be 100 kW (actual power) and above
	c. The mA range available should be between 20 to 800 mA or more with increments in steps of not more than 10mA.
	d. The X ray Tube should be essentially Dual Focus. The heat storage capacity should be 7 MHU or equivalent. Specify the method and technique of cooling. Any special feature of the X ray tube to be highlighted with literature.
	e. Specify the focal Spots of the X ray tube.
	f. The X ray tube should have a cooling rate of not less than 1000 KHU per MIN
	g. The X ray tube Cooler Unit should be in built in the Gantry.
3.	**Detectors:**
	a. The Detector Offered should be Solid State.
	b. The 256 acquisition slice or more per Rotation should be possible. The Systems

	should have at least 128 Physical Rows of the detector or more.
	c. Specify the Fan Angle of the X rays and the geometry. The detectors should not require frequent calibration.
4.	**Patient Couch:**
	a. The patient table offered should have a minimum load bearing capacity of at least 200 KG.
	b. The Minimum table top height should not be more than 65cms from the floor level for easy transport of trauma patients.
	c. The Floating table top width should be at least 40 cms for better comfort.
	d. The range of metal free scan should be at least 165 cms.
	e. The vertical range should be at least 55 cms (max height — min height)
	f. Specify the reproducing accuracy of the table.
	g. Remote UP/DOWN, FWD/BWD of the Patient Couch should be standard
5.	**Topogram:**
	a) Length and width: specify range.
	b) Scan times: specify range, specify whether real-time image option available.
	c) Views: should be feasible in frontal and lateral views
	d) Should be possible to interrupt acquisition manually if necessary.
6.	**Spiral/Helical Section:**
	a. The system offered should have Spiral Capability of at least 80 seconds & above. Real Time Spiral @ 10 f/s should be standard.
	b. The range of Spiral facility in Axial Direction should be more than 100 cms.
	c. The Reconstruction Time in Spiral scan should not be more than 100 Milli seconds.
	d. The system should have the Smart Prep or equivalent facility & ability to track Contrast medium to trigger scan should be included in the scope of Supply
	f. High Resolution scan package should be offered as standard and Specify the minimum slice thickness for which High Resolution scan package is possible.
	g. Multi Slice CT Fluoroscopy to be quoted as standard. Price should be quoted separately.
7.	**Computer Section:**
	a. The Computer offered should be the Latest Multi-tasking Processors and a menu driven platform with a RAM size of at least 4GB.
	b. The medical grade monitor should be the latest Color of at least 18 inches and flat screen. Two Monitors Independent Console preferred. The Twin Monitor system should work on either shared or Common data base.
	c. The display matrix should be at least 1024 x 1024.
	d. The reconstruction time for an Axial scan should not be more than 100 milli seconds.
	e. The Hard disk Capacity for both Image and Raw data should be more than500GB
	f. It should have facility to store at least 250,000 Images
	g. The system should be supported with archiving facility of DVD & CD Main Console
	h. DICOM facility to send , store , print , receive, Query / Retrieve , MWM , MPPS etc should be standard.
	i. PC Based connectivity should be standard for easy transfer of Images & Report. The image transfer from main console to workstation should be automatic and immediate.
	j. CT should be with dual monitor console with two concurrent workstations (thin

	client server architecture based solution) comprising of medical grade monitors (2 mega pixel resolution) with at least 8GB RAM. The server should have image storage capacity of 3 Tera bytes, minimum 40000 concurrent slice processing power and at least 64 GB RAM. It can be single/dual server configuration. The two concurrent workstations should have processing capabilities for basic 2D /3D and following advanced applications. a. MPR b. Minimum and maximum intensity projection. c. 3D volume rendering. d. 3D SSD (Shaded Surface Display). e. Advanced vessel analysis. f. Auto bone removal. g. Lung nodule assessment. h. Liver lesion analysis. i. Virtual endoscopy. j. Dedicated Colonography and colonoscopy. k. Time point comparison. l. Whole organ (Brain & Body) perfusion CT. m. Coronary tree analysis: automated 3D processing of coronary arteries, calcium scoring, stent analysis, LV analysis. n. Neuro DSA with Automated Bone Removal. o. Fusion CT: Fusion of morphological data of CT & MRI.
8.	**Image Processing section:**
	Cardiology and Oncology post processing tools to be quoted as standard. The post processing tools of the perfusion and others as quoted below to be available in the workstation.
	a. The system should have standard software like 3D Volume rendering , MIP,CT angio, color angio Display, CT Perfusion , Dental scan , Bone Mineral Study should be available as standard on the Workstation . Computer Aided Detection (CAD) to be provided.
	b. The following soft ware should be offered as standard (MPR , ROI, VOLUME CALCULATION , CT NUMBER DISPLAY , WINDOW WIDTH , WINDOW LEVEL , TOPOGRAM DISPLAY , CINE DISPLAY , HRCT LUNG, DYNAMIC SCAN)
	c. Cardiac Scan Attachment with ECG Gated Segmented Recon , Calcium score , Vessel Flythrough of the Coronaries should be available with software package at workstation and thin client server stations..
	d. Automatic display of MPR Images after scan will be preferred.
	e. Bolus triggered Brain Perfusion CT study (at least 3-level) with automatic CBF, CBV, MTT, TTP maps, ROI placing, comparing ROI, saving maps
	f. Neuro DSA with automatic bone removal software.
	g. Dental CT: high-resolution evaluation of teeth and jaws with automatic panoramic and paraxial reconstruction, evaluation of mandibular canal and life size filming.
	h. Fusion CT: fusion of morphological data obtained on CT, MR or DSA.
	i. Lung CT: low dose lung CT protocols for advanced lung nodule detection, assessment and follow-up. Lung segmentation software for nodule detection.

	Provide LUNG CAD for virtual bronchoscopy .
	j. provide Bone / Osteo / Dental CT software..
	k. Post processing should also have liver segmentation analysis, whole body perfusion, tumor tracking, myocardial assessment.
9.	**Resolution:**
	a. The System Spatial Resolution should be mentioned with parameters.
	b. The high contrast resolution should be more then 20 lp/mm in all routine scan, including spiral and axial mode.
	c. The low contrast resolution should not be more than 3 mm at 0.5 %. Shoulder , Pelvis Streak Artefact suppression Software should be standard.
	d. Noise Suppression protocols to maintain LCR at low dose should be standard.
	e. Special softwares(like mA modulationin routine & cardiac mode) to ensure dose efficiency should be standard.
	f. Specify the CT Dose Index.
	g. Should have iterative reconstruction technique for X Ray dose reduction.
	h. Low dose Paediatric CT mode should be available
	i. Patient radiation dose should be displayed on the monitor & films.
10.	**Accessories:(Make and Model of all the quoted accessories should be specified)**
	a) Dry chemistry camera of DPI 500 or more of any reputed make.
	b) Lead Glass of 200 x 100 cm.
	c) UPS with half an hour back up to run the entire CT, Computers, Dry chemistry camera, Work Stations etc.
	d) Dual Head Pressure Injector of reputed make with 300 sets of Syringes & 1000 sets of tubings. Specify the make of Injector.
	e) Multi Para monitor with pulse oximeter of a reputed make for monitoring vitals
	f) Patient radiation dose should be displayed on the monitor as well as on the films
	g) ULTRA LIGHT WEIGHT lead free aprons - 4 Nos.
	h)Apron stand — 1 No.
	i) Apron Hanger suitable for the supplied aprons, shields.
	j) LEAD Free Thyroid Shields – 4 nos.
	k) Lead Free Gonadal Shields – 4 nos
	l): Tumour ablation system with treatment planning solution & RF generator .
	Specifications as below;
	• Computerized needle positioning guiding tool along with radio frequency ablation system for CT guidance in tumor ablation.
	• System should support different ablation system.
	• Registration of the data, post processing segmentation before and after ablation should be possible.
	• Overlay of non-contrast images with contrast images to be possible.
	• Should include radio frequency ablation generator with:
	1. Frequency at least 450KHz.
	2. To support multiprong electrode and capable of 7cm ablation in one sitting.
	3. Temperature range should be 15-125 deg C with steps of 1 deg C.
	4. RFA accessories- Intelliflow pump, RFA probes, multiprong electrodes and

	coaxial biopsy gun of 9cm and 15cm with 20cm throw.
11.	**Warranty:**
	a) Five Years for Comprehensive warranty CT Scanner System including X ray tube and all accessories and turnkey works for which order is placed to be provided.
	b) 98% uptime should be maintained during the entire Warranty period. In case of downtime exceeding more than 2%, warranty will be extended double the down time period.
12.	**SERVICE**
	After warranty CMC for next Five years for complete CT Scanner System including X ray tube and all accessories and turnkey works for which order is placed to be provided. During CMC period vendor shall have to maintain 98% uptime of the equipments. CMC will be extended by double the down time in excess of 2%.. A clear cut undertaking to be given regarding acceptance of uptime clause by the principal/vendor
13.	**Training** - Qualified personnel nominated by the deptt, should be given application training by the vendor at their cost at site for three months and as and when required.
14.	**Certifications:**
	I. Offered model should be European CE and US FDA approved. Copy of certifications should be submitted with bid
	II. The quoted model should be AERB approved. Copy of AERB type approval should be submitted with bid.
	i. DUAL ENERGY APPLICATIONS to be provided as standard: Renal Calculi Characterization & Gout.
	ii. All other Dual Energy applications available with vendor should be listed as optional with price of each quoted separately.
	iii. Proof of availability of dual energy application must be supported with original datasheet.
	iv. Dual energy application must be possible on all workstation and all fields of view with minimum FOV 33cm.
	v. Also Specify if DUAL ENERGY APPLICATIONS like Metal Artifact Correction / Beam Hardening artifact Correction, Brain Haemorrhage are available in the system. Any other application for dual energy if present in future upgrades should be part of the system.

Accessories:

X-RAY FILM ILLUMINATOR WITH COLLIMATION – SINGLE PANEL (3 NOS.)

Specifications:

- X-Ray Film Illuminators with collimation and luminous density control.
- Suitable for viewing one 14"X17" film.
- It should have high luminous density and uniform light as per DIN 6856
- It should have daylight fluorescent lamps of latest design, colour temperatures of 6.200 and 6.500 Kelvin.
- It should have fully electronic continuous brightness control, with adjustment range of approximately 90%.
- High frequency flicker free light.
- Maximum Luminous density of more than 4.500 cd/sq.m.

- It should have four extremely easy to move shutters for glare-free reading of any film format. Four shutters should be fitted between an external scratch-proof clear-glass pane and an internal acrylic milk glass pane.
- It should have movable nylon film retaining cords with plastic slides.

X-RAY FILM ILLUMINATOR WITH COLLIMATION – DOUBLE PANEL (3 NOS.)

Specifications:

- X-Ray Film Illuminators with collimation and luminous density control.
- Suitable for viewing two 14"X17" film.
- It should have high luminous density and uniform light as per DIN 6856
- It should have daylight fluorescent lamps of latest design, colour temperatures of 6.200 and 6.500 Kelvin.
- It should have fully electronic continuous brightness control, with adjustment range of approximately 90%.
- High frequency flicker free light.
- Maximum Luminous density of more than 4.500 cd/sq.m.
- It should have four extremely easy to move shutters for glare-free reading of any film format. Four shutters should be fitted between an external scratch-proof clear-glass pane and an internal acrylic milk glass pane.
- It should have movable nylon film retaining cords with plastic slides.

X-RAY FILM ILLUMINATOR WITH COLLIMATION – TRIPLE PANEL (3 NOS.)

Specifications:

- X-Ray Film Illuminators with collimation and luminous density control.
- Suitable for viewing three 14"X17" film.
- It should have high luminous density and uniform light as per DIN 6856
- It should have daylight fluorescent lamps of latest design, colour temperatures of 6.200 and 6.500 Kelvin.
- It should have fully electronic continuous brightness control, with adjustment range of approximately 90%.
- High frequency flicker free light.
- Maximum Luminous density of more than 4.500 cd/sq.m.
- It should have four extremely easy to move shutters for glare-free reading of any film format. Four shutters should be fitted between an external scratch-proof clear-glass pane and an internal acrylic milk glass pane.
- It should have movable nylon film retaining cords with plastic slides.

X-RAY FILM ILLUMINATOR WITH COLLIMATION – FOUR PANEL (3 NOS.)

Specifications:

- X-Ray Film Illuminators with collimation and luminous density control.
- Suitable for viewing four 14"X17" film.
- It should have high luminous density and uniform light as per DIN 6856
- It should have daylight fluorescent lamps of latest design, colour temperatures of 6.200 and 6.500 Kelvin.
- It should have fully electronic continuous brightness control, with adjustment range of approximately 90%.
- High frequency flicker free light.

- Maximum Luminous density of more than 4.500 cd/sq.m.
- It should have four extremely easy to move shutters for glare-free reading of any film format. Four shutters should be fitted between an external scratch-proof clear-glass pane and an internal acrylic milk glass pane.
- It should have movable nylon film retaining cords with plastic slides.

LED X-RAY FILM ILLUMINATOR WITH COLLIMATION – SINGLE PANEL (1 NOS.)

Specifications:

- LED X-Ray Film Illuminators with collimation and luminous density control.
- Suitable for viewing one 14"X17" film.
- It should have high luminous density and uniform light as per DIN 6856-1.
- It should have LED lamps of latest design.
- It should have fully electronic continuous brightness control with adjustment range of approximately 90%.
- It should have flicker free light.
- Maximum Luminous density should be atleast 4.500 cd/m^2.
- It should have four extremely easy to move shutters for glare-free reading of any film format.
- It should have thickness of not more than 70 mm.

LED X-RAY FILM ILLUMINATOR WITH COLLIMATION – DOUBLE PANEL (2 NOS.)

Specifications:

- LED X-Ray Film Illuminators with collimation and luminous density control.
- Suitable for viewing two 14"X17" films.
- It should have high luminous density and uniform light as per DIN 6856-1.
- It should have LED lamps of latest design.
- It should have fully electronic continuous brightness control with adjustment range of approximately 90%.
- It should have flicker free light.
- Maximum Luminous density should be atleast 4.500 cd/m^2.
- It should have four extremely easy to move shutters for glare-free reading of any film format.
- It should have thickness of not more than 70 mm.

Technical Specifications
(Bi-Plane DSA)

Sr. No.	Specifications as per tender
	The system should be the state of the art model to be quoted with feature equivalent to the latest model launched at RSNA 2014 or later. It should be FDA and CE approved in addition to AERB approved.
A.	**Gantry:**
	1. The system should have two gantries: one floor mounted and one ceiling suspended providing full body coverage. The lateral plane should have motorized longitudinal C-arm movement.
	2. It should be possible to pre-program the gantries for multiple examination positions.
	3. All movements of the gantries should be controlled from the joystick on the table side as well as from the control.
	4. The system should have adequate collision protection for the safety of the patient.
	5. Both gantries should have fast speed for angulations and positioning. The frontal system should have a speed of at least 15 degree/sec. for all positions and lateral plane should have a speed of at least 8 degree/sec.
	6. Gantry angulations in both planes frontal and lateral should be freely user selectable to satisfy clinical imaging needs.
	7. Both the gantries should have an automatic positioning capability dependent on the reference image being selected and possibility to select reference image depending on the gantry position.
B.	**Patient Table:**
	1. The table should have motorized longitudinal, horizontal and vertical travel.
	2. It should have the facility for automatic bolus chase for peripheral angiography.
	3. The table with trendelenberg tilt facility.
	4. It should be possible to swivel the table in case of emergencies.
C.	**X-Ray Generator:**
	1. Generator should be multi-pulse/high frequency for constant output.
	2. Output should be 100 KW or more.
	3. Radiography KVP range should be 40 KV – 125 KV or more.
	4. Output at 100 KV should be 1000 MA or more.
	5. It should have automatic exposure control device for radiographic fluoroscopy and angio mode.
	6. It should have digital display or KVP & MAs.
	7. Anatomical programming radiography should be possible.
	8. It should have over loading protection.
	9. It should have the facility for pulsed fluoroscopy at variable rates for reducing the x-ray dose to the patient during intervention procedure.
D.	**X-Ray Tubes:**
	1. Both planes should be provided with rotating anode high speed tubes.
	The focal spot should have the following sizes:
	i) 1.0 mm or less with load 80 KW or more in minimum one plane.
	ii) 0.5 mm or less with load 15 KW or more in minimum one plane.

	2. Anode heat storage capacity should be 1.7 MHU or more having liquid bearing technology or metal lubricant.
	3. The system should have adequate cooling facility for the x-ray tubes for uninterrupted performance during procedure.
E.	**Collimator**
	1. One collimator for each plane is to be provided.
	2. The collimator should have facility for automatic copper pre-filtration for reducing the x-ray dose.
	3. The collimator leaf should have IRIS/rectangular type arrangement.
	4. The collimator should have the facility for the dose measurement chamber in order to display the skin dose on the monitors in the lab.
F.	**Biplane Digital System:**
	1. Dynamic flat detector system with high spatial and 14 bit contrast resolution.
	2. Size of frontal plane should be at least 40 cm diagonal.
	3. Size of lateral plane should be at least 40 cm diagonal.
	4. It should provide multiple formats/fields at least of 4 sizes.
	5. Spatial resolution should be at least 3.0 LP/mm in frontal plane and 2.5 LP/mm in the lateral plane.
	6. Three monitors of at least 19" size TFT/LCD for each plane for display of live, reference and subtracted image with high resolution flicker free display should be provided. Monitors should have anti-glare provision.
	7. Similarly 4 monitors, two for each plane (live & reference image) with high resolution display in the control room should be provided.
	- Console Monitor for patient registration.
	- Physiology monitor in examination room and in console with the requisite computer system for NIBP, IBP, SpO2 measurement, display and analysis.
G.	**Digital Imaging System and essential softwares:**
	1. Road mapping facility (Real time 2D & 3D) should be available with possibility of superimposing of fluoro image on reference image. Facilities for unlimited subtracted high resolution fluoroscopy should be available.
	2. It should have the capability to acquire images in 1024 x 1024 matrix with a maximum speed of 6 frames or more per second on-line subtraction. Specify the maximum image acquisition rate without subtraction.
	3. Post processing software facilities with real time edge enhancement, positive/negative image display windowing, electronic shuttering, roaming, image reversal, zooming and magnifying with text and annotation junctions.
	4. a. Rotational angiography facility (2D & 3D) at a speed of at least 30 degree/sec. with acquisition frame rate of at least 25 frames/sec. in 1k matrix with facility for online display of subtracted images should be available. Specify if the rotational angiography is with on-line subtraction in 1024 matrix.
	4 b. Rotational data acquisition with an output of cross sectional CT like images should be provided.
	5. Last image hold or reference image toggling with fluoro should be available.
	6. It should have minimum image storage capacity of 1,00,000 images in the 1024 x 1024/12 bit.
	7. Digital subtraction angiography software of automatic pixel shift enhancement for iodine and CO2 contrast should be possible.

	8. A separate workstation for 3D reconstruction of the rotational angiography images should be provided. The 3D image measurement and slicing should be possible. Facility to display reconstructed images in the procedure room should be provided.
	9. The complete digital system along with workstation should be networked and connected to a DICOM compatible laser camera.
	10. The digital system should have software for vascular analysis and quantification including stenosis %. All measurement should be possible from the patient table side.
	11. Archiving on a CD/DVD recorder should be provided. Juke box/RAID (4TB) and 5000 CD's R/W or 1000 DVD should be supplied with the unit
	12. An additional workstation for processing of the DSA images and their documentation should be provided in addition to 3D workstation.
	This workstation should have the facility to reconstruct the long leg view for peripheral images.
	13. The system should be able to receive/display on reference monitor, DICOM format images from other modalities like CT & MR. DICOM print facility should be available.
	14. Bolus chase software should be provided.
	15. It should have facility to measure dose during the procedures.
	16. Specify the time limit for minimum 30 seconds for uninterrupted acquisition of on-line subtracted images at 1024 x 1024 matrix with maximum frame rate.
H.	**Essential accessories:**
	The following essential accessories to be provided with the unit:-
	1. On line UPS for the complete system excluding the x-ray system for both planes with 30 min. back up. (Prices to be quoted separately)
	2. Pressure injector of reputed make along with 500 disposable syringes sets.
	3. Dry Chemistry Laser Imager with resolution of 600 DPI or more. DICOM ready and online for film size of 14‖x17‖ (Prices to be quoted separately).
	4. Ceiling suspended radiation protection system and table side protection system.
	5. Focused ceiling mounted light with a handle for positioning the light.
	6. Ultra-light Weight Lead free gown as per the following specifications: 8 Nos.
	i) It should have lead equivalent of 0.5 mm.
	ii) It should be double sided type lead free apron
	iii) It should be light in weight.
	7. Lead free Thyroid Guard – 6 Nos.
	8. Lead spectacles – 6 Nos.
	9. Foot switch for fluoro/acquisition control.
	10. Multichannel monitor (with essential accessories) for monitoring physiology. It should be able to record and print the pressures in general and also for stenosis analysis (catheter gradient). It should have a pulse oximeter module, ECG module, SpO2 module, etc.
	11. Lead protected viewing glass (Size: 200cm X 100cm)
	13. Anaesthesia workstation with ventilator.
	14. Bi Phasic Defibrillator
I	**Warranty:**
	a) Five Years for Comprehensive warranty for the complete system including X ray tube and all accessories and turnkey works for which order is placed to be provided.

	b) 98% uptime should be maintained during the entire Warranty period. In case of downtime exceeding more than 2%, warranty will be extended double the down time period.
J	**SERVICE**
	After warranty CMC for next Five years for complete System including X ray tube and all accessories and turnkey works for which order is placed to be provided. During CMC period vendor shall have to maintain 98% uptime of the equipments. CMC will be extended by double the down time in excess of 2%.. A clear cut undertaking to be given regarding acceptance of uptime clause by the principal/vendor
K	**Training** - Qualified personnel nominated by the deptt, should be given application training by the vendor at their cost at site for three months and as and when required.
L	**Certifications:**
	I. Offered model should be European CE and US FDA approved. Copy of certifications should be submitted with bid
	II. The quoted model should be AERB approved. Copy of AERB type approval should be submitted with bid.
M	Area details and turn key specifications will be submitted later when the site is physically handed over to the end user.

TECHNICAL SPECIFICATIONS FOR
1000mA DIGITAL RADIO FLUOROSCOPY
(DRF) SYSTEM

The Unit should be equipped with integrated high-frequency generator, digital detector and Digital Image processing system. It should be capable of performing all plain and contrast enhanced radiology and fluoroscopy along-with angiography facility for interventional procedures. It should be FDA and CE approved in addition to AERB approved. The system should have the following essential features. The bidder should quote their latest model. Please mention year of launch.

1. **Table:**
   a. Continuously motorized remotely controllable table with longitudinal movements of table/ imaging chain so that it can image a complete body continuously. The table should also have transverse and vertical movements. Minimum height of table should not be more than 80 cms.
   b. Motor-assisted digital detector movements.
   c. Motor driven +90º/-90º table tilt along with digital angle display.
   d. Suitable grid with grid ratio of12:1 or better.
   e. Carbon fiber table top.
   f. Remotely controllable compressor.
   g. Patient load 180 kg or more.
   h. Foot board should be available.
   i. Remotely controllable collimator.
   j. Injector interface.
   k. Cordless Intercom facility.

2. **Digital Detector for Fluoroscopy & Radiography.**
   a. Size of Digital Detector 43 x 43 cm or more.
   b. 2800 x 2800 Matrix Image acquisition or more.
   c. DQE > 65%
   d. Spatial resolution 3 lp or more.
   e. Digitization depth 16 bits or more.
   f. Pixel size 150 micron or less
   g. Three zoom levels.

3. **Monitors:**
   a. Four number ultra-high resolution, high-definition medical grade monitors 19" or more LCD monitors for high-contrast (min 2MP), distortion free image display separately for the live and reference images. Two monitors to be ceiling suspended in exam room and two in control console.

4. **X-Ray generator:**
   a. High-frequency 100 Khz or more.
   b. 1000 mA X-Ray generator with micro processor control.
   c. Touch screen operation for multiprogramming.
   d. Power 80 Kw (1000 mA at 80 kV).
   e. **Radiography.**
      i. KV Range 40-150 KV.
      ii. mA Range 10-1000mA in radiography.
      iii. Minimal Exposure time 1 ms or less.
      iv. Anatomical programmed radiography
   f. **Fluoroscopy**
      i. KV Range 40-125 KV or better
      ii. mA Range: 0.5 to 5mA or better
      iii. Pulsed fluoroscopy should be available
   g. Protection required from overload and main supply automatic compensation
   h. Automatic exposure control (AEC).

5. **X-Ray Tube:**
   a. One No. Dual focus X ray tube with rotating anode with 9000 rpm or more
   b. Anode heating capacity 600 KHU or more
   c. Focal spot size 0.6 and 1.2 mm at 30 & 80KW respectively or better.
   d. Longitudinal movement of tube across the patient must be 100 cm or more
   e. Rotation of X - ray tube assembly+/ -90 degree or more.

f. Variable SID ---- 150 cm or more motorized adjustments.
g. Multileaf collimator having halogen lamp/bring light source and auto shut provision of the light.
h. Collimator must be mounted on x-ray tube and Collimator must have an integrated Dose Area Product (DAP) meter. Output of DAP meter should be visible in software console.

6. **Image Processing System**
   a. latest image acquisition system
   b. Operating Console -for system operation from control room
   c. Digital fluoroscopy at a minimum of 15 f/s at 1024 matrix or better.
   d. Alphanumeric patient data input.
   e. Image processing functions: Black/inversion, windowing, edge enhancement, text input, roaming shuttering and reversal.
   f. Multiple image display of 16 images and 4 images.
   g. Image storage with last image hold
   h. Storage of fluoroscopic images
   i. Hard disk having capacity of 30000 images including fluoro loop sequence.
   j. Rewritable CD-R or DVD recording.
   k. Fully loaded Digital Subtraction Angiography Package with all features.
   l. Footswitch for fluoroscopy release should be available.
   m. Spatial resolution should be not less than 3.4 lp/cm .
   n. contrast should be high of 16 bits or more.
   o. DICOM Ready with full DICOM Package.
   p. patient directory

7. **Essential Accessories**
   a. Lead free Apron 6 Nos. (AERB Approved)
   b. Lead Glass viewing window 100 cm x 120 cm or more with lead equivalence of more than 0.5 mm
   c. Dry Chemistry Direct Digital Camera, capable of printing all film sizes online with resolution of 500 DPI or more. All film sizes should be freely configurable at user level.
   d. Dual head pressure injector with 500 syringes.
   e. Foot Switch for fluoroscopy and acquisition of images.
   f. Suitable UPS with at least 30 minute back up to be provided for the whole system.
   g. Patient monitoring system: Multi parameter monitor with facility of three lead ECG, SPO2 monitor, NIBP, reusable SpO2 probes for infants and two Invasive Blood Pressure (IBP) monitoring module, Defibrillator and Suction machine.
   j. One Mobile storage racks for aprons and two Wall Mounted Rack for Aprons with 5 Hangers.

8. Out of X-Ray Tube, X-Ray Generator & Detector, any two should be from the same manufacturer.

9. **WARRANTY:**
   5 Years Warranty on all supplied items including X Ray tube, vacuumated items, accessories, UPS batteries, third party items and all turnkey items. 98% uptime should be maintained during the entire Warranty period. In case of downtime exceeding more than 2%, warranty will be extended double the down time period.

10 **C.M.C**

Comprehensive Maintenance charges of complete system for which order is placed including turnkey works must be quoted year-wise for next 5 years after completion of warranty. During CMC period vendor shall have to maintain 98% uptime of the equipments. CMC will be extended by double the down time in excess of 2%. A clear cut undertaking to be given regarding acceptance of uptime clause by the principal/vendor

11. **SERVICE**
    Details of the service centers, in India along with names of Trained Service Engineers with address and their telephone Nos. to be provided in the technical bid.

12. **TRAINING**
On site application training for 6 weeks and additionally if required to be provided by the company to doctors and technical staff members.

13. **APPROVALS:**
The system should have US FDA and European CE and have AERB type approval / AERB NOC for the whole system on the date of tender. The bidder to provide any other certificate (e.g. BIS) required to import the machine in case of any imported equipment.

14. Area details and turnkey specifications will be submitted later when the site is physically handed over to the end user.

Direct digital flat panel Radiography system 80 KW-1000mA unit with two Flat panel detectors

Fully digital radiography system with proven two Flat panel detectors with Cesium Iodide Scintillator and

with Automatic Exposure control (AEC) capable of performing exposure in vertical, horizontal and oblique positions to perform all skeletal body (Upright and Lying down) radiographs. The unit should be completely integrated (X-ray Generator and tube should be same manufacturer) along with auto features in quality control & performance, AEC, APR, Auto position of detector for under couch & vertical studies

Mention the year of introduction of the quoted model in the International market and the quoted Model should be latest state of Art technology

A) Detailed Specification of X-Ray Flat Panel Detectors (Quote the latest model of flat panel detectors)

Note : Specifications to be supported by compliance statement with page number of original Technical Data Sheet of detector and any additional information from the manufacturer.

1 Use of matrix flat panel imager (Radiography)
2 Name of the Detector model and manufacturer to be provided .
3 Assembling should be Monolithic panel.
4 Active Matrix Flat Panel detector should be based on Indirect Conversion process
5 Scintillate material used for flat panel detector should be Thallium doped Cesium iodide (Csi:TI).
6 Semi Conductor material (Photodiode) should be Amorphous Silicon.
7 Charge Read Out should be Thin Film Transistor (Array) (TFT Array).
8 Detector Size should be 43 cm x 43 cm or more
9 Array Size be 2000x2000 pixel or more
10 Pixel Pitch be 0.2 mm or less
11 Image depth should be 14 Bits or more
12 Wide Dynamic Range of Flat Detector
13 Detector Quantum Efficiency (DQE) should be at least 65%
14 Tube assembly movement to be automatically synchronized with both the horizontal and vertical detectors movement
15 Two Digital flat panel detector systems with detector integrated into the Bucky table as well as wall stand
16 Mention the weight of the detector
17 Mention the detector assembly size (HxWxD cm)
18 Mention the estimated life of the detector
19 Mention any other version of indirect flat panel detector (Model available)
20 System warm up time should be minimum.

B Specification of Acquisition / Review Work station :

21 Monochrome LCD monitor with protect panel from dust and scratches
22 Manufacturers name and model to be provided.
23 Viewing angles (H, V) : 170 Deg. Or more
24 Size of Monitor (diagonal) 19" or more
25 Mouse control display
26 Mention all the standard accessories to be supplied with the monitor
27 Hard disc storage : 70 GB or more storage of 3000 or more images
28 Past Acquisition, Image processing and Display : Mention the time

C X-Ray Table Specification :

29 Motor driven, Adjustable height floating top compact bucky table with digital flat panel detector
30 Compact bucky table with digital flat panel detector
31 Mention range of vertical, horizontal and longitudinal movements of the table
32 Removable grid for SID of 100 cms for horizontal table applications
33 Four way floating horizontal table top of equivalent to carbon fiber table top
34 Maximum patient weight - 200 kgs or more

35 Table Top length : 200 cm or more

36 Foot switches for – adjusting height, longitudinal/side to side movements, locking, light adjustment

D Vertical Stand

37 Vertical movement : Motorized with foot switch facility

38 The vertical movement to be servo coupled to the movement of the X-Ray tube (simultaneous movements)

39 Standard removable focus grid (minimum two) mention the number of lines / cm and Grid Ratio.

40 Motorized detector tilting facility with either IR remote or handswithch control required

41 Removable grid for vertical bucky applications

42 Height to detector panel (center) from the floor should be minimum 30 cm

43 Maximum height from the floor to the center of detector should be more than 175 cm

E Ceiling Mounted X-Ray Tube

44 X-Ray tube suspended on a telescopic column

45 The movement of X-Ray tube should be motorized and movement in all possible in all directions: Specify the travel range and angulations in degrees

46 It should have capability of manual override.

47 Provision for patient side control panel.

48 **X-Ray Generator Specification**

49 Invertors Type Constant Potential high Voltage Generator (High Frequency X-Ray Generator)

50 Power : 80 KW

51 800mA at 100 kv according to IEC standard

52 Automatic exposure control with 3 or 4 chambers

G X-Ray Tube (Specification)

53 Anode Heat storage capacity 300 KHU or more

54 Mention the name of the X-Ray tube

55 Specify the heat storage capacity of the whole tube

56 Specify the cooling rate of the anode and Tube

57 Inherent filtration with aluminum

H Accessories

58 Compression belt (Pediatric and adult) (2 each)

59 Patient hand grip

60 Foot switch for adjusting the height of the stand or the table

61 Lateral cassette holder to be provided.

62 Patient support bar for vertical stand to be provided.

63 Lead Glass 80 cm x 100 cm to be provided.

64 Table top locking facility to be provided.

65 Provide Voltage stabilizer if required for the system.

66 UPS of appropriate rating (with half hour back up) for the acquisition / review workstation and 2nd monitors (if supplied with the system) of reputed brand to be provided.

F Advanced Clinical Application Facility :

67 Auto Image stitching / image pasting for complete spinal column, extra long leg image etc.,(sample Films of the same has to be enclosed in technical bid, Indian Hospital Name has to be embedded on the film)

68 Specify the maximum number of images which can be pasted together for different organs.Provide all the details and technical aspects

69 Dual energy subtraction facility to be provided

J Following Post Processing Facility should be available :

70 Addition of Anatomical markers

71 Demographic Correction

72 Image Annotation

73 Window and Level adjustment

74 Electronic Collimation

75 Magnification

76 Application of different LUT's

77 Any other additional facility available give details.

M Other Terms and Condition

78 Some specification which are not qualified, the buyer reserves the right to evaluate the specification based on the details given by the firm.

79 The equipment should be under comprehensive warranty for 5 years for all items for which order is placed including turnkey works from the date of successful installation and handing over with an uptime warranty of 98% and extension of warranty period by double the down time in excess of 2%.

80 Please quote Comprehensive maintenance Contract (Including X-Ray Tube and detector) and all other items for which order is placed including turnkey works for 5 years after successful completion of warranty with 98%uptime and extension of CMC period by double the down time in excess of 2%.

81 All software up-gradation will be provided free of cost to the institute as and when available

82 Operating manual, service manual along with schematic diagram to be provided

83 There will be an agreement between the buyer and seller for comprehensive maintenance contract at the time of finalization of purchase of equipment.

84 Only principal or their authorized principal agents should participate in the tender. Principal manufacturer will have to give an undertaking of availability of spares as well maintenance of services for 10 years in case there is any change of local agent.

85 Company should provide adequate application training of at least one month or as long as required to the Radiologists & Technical staff.

86 All the civil, Electrical alternation / fixation pertaining to the installation of the machine will be the responsibility of the firm

N Accreditation and Quality Certification

87 Out of 3 major components of the Digital Radiography system (Detector, Tube and Generator) 2 Components Generator & tube should be from the same manufacturer.

88 The quoted model should be AERB type approved and CE & US FDA certified

The Participant company must have minimum turnover of Rupees Twenty Crore per year from the said business for the last three financial years

90 The Bidder must have been in business of Flat Panel Detector equipment supply/installation for the last 3years. It should have experience of at least five installations per year for the last consecutive three years. 5 years warrenty & 5 years CMC should be included with provision of supply of spare parts of the model supplied for next 10years by the principal manufacturer. In addition principal manufacturer to give undertaking of service & maintenance of the equipment in case local agent changes.

91 Turn key details will be provided after the site is handed to the end user

Technical Specifications of Portable Flat Panel Radiography System

Sl. No	Specification
	Competitive bids are invited for procurement of a state-of-art mobile digital

	radiography system.
	The unit should be compact, easily transportable digital mobile radiographic unit with articulated or telescopic arm , preferably articulated. It should be suitable for bedside x-ray for ward patients, intensive care units and operation theaters. The unit should be a digital system with flat panel detector. The vendor should provide a demonstration of the capability of their machine to perform X-ray procedures on all body parts (including head and chest) of any patient with the machine counterbalance positioned at the foot end of the patient. If the DR system is inoperable it should be able to function as conventional system. The system must include the following:
	Power Line Connection:
	The unit should operate on single-phase power supply with plug in facility to any standard wall outlet with automatic adaptation to line voltage 200 to 240 Volts, 15 Amp plug.
1.	***The Generator:***
	• Must be microprocessor controlled high frequency, output 30 KW or above.
	• It should have a digital display of mAs and kV and an electronic timer.
	• KV range: 40kV to 125kV or more in increments of 1kV
	• Max. current: 300 mA or more
	• mAs range: 0.1 – 350 mAs(to specify mA/s separately)
	• Exposure time range: 0.004 – 10 s
2.	***X-Ray Tube:***
	• Focal spot should be less than 1 mm
	• Rotating anode with 3000 rpm or more
	• heat storage capacity of the anode : 120 KHU or better
	• Tube overload protection should be available
3.	***EXPOSURE***
	• vendor must provide with exposure technique chart
	• exposure status lights on main control and collimator
	• exposure indicator or air kerma indicator
4.	***Flat panel detector:***
	• Detector should be wireless , cesium iodide scintillator with amorphous silicon technology
	• The flat detector should be of the size 14 x 17 inch or more.
	• The detector pixel matrix size should be 2.0K x 2.0K or more.
	• Pixel size 200 micronmeter or less
	• The machine should have a detector storage compartment.
	• The image viewing time after exposure should not be more than 10 sec.
5.	***Battery:***
	The machine should be able to run on mains as well on battery supply
	Specify Battery charging time and battery operation time
	• Number of exposures which can be done on fully charged battery should be greater than 150
	• The battery should also provide power for the motor to move the machine.
6.	***Workstation:***
	• The machine should have an integrated workstation with a TFT touch screen.

	• The workstation should enable to view the image, and provide post processing features, using touch screen.
	• The post processing features should include, zoom, contrast and brightness adjustment, storage of image with a memory of at least 2000 images.
	• The touch screen size should be at least 15 inches.
7.	***Connectivity:***
	The machine should be fully network ready and it should be possible to transfer images and patient data from and to hospital network using LAN connectivity and wireless LAN. System should be DICOM 3 compatibility and DICOM functions including DICOM Print, Image Export, WLM, MPPS. It should provide the possibility to write all Patient images, Studies and single images onto CDs directly on work station.Interface : DICOM 3.0 Ethernet 10/100 Base T . DICOM worklist interface , storage service class (SCU) and others
8.	The unit must have an effective braking system for parking, transport and emergency braking. The tube stand must be fully counterbalanced with rotation in all directions.
9.	It must have an articulated or telescopic arm for maximum positioning flexibility in any patient position. The angles in various planes to be specified by the manufacturer. The vendor should provide a demonstration of the capability of their machine to perform X-ray procedures on all body parts (including head and chest) of any patient with the machine positioned at the foot end of the patient.
10.	The exposure release switch should be detachable with a cord of at least 5 meters. Exposures with remote control should be possible. Remote control should be offered with system.
11.	The Dose Area Product meter should measure the X-ray dose output at the collimator and reports the measured Dose Area Product (mGy*m2) to the DICOM header of the image.
12.	Two light weight 'zero lead' aprons should be provided.
13.	Grid of appropriate ratio with mention of grid ratio and frequency should be there
14.	Five years comprehensive on site warranty of entire system (Spares and labour), without any exclusion, including detector, X-ray tube, computers and all other accessories. This will be followed by 5 years CMC to be quoted separately, year wise.
15.	98% uptime guarantee should be given. In case down time exceeds 2%, penalty in the form of extended warranty, double the number of days for which the equipment goes out of service, will be applied
16.	Submit a valid AERB Type approved certificate for the model quoted.NOC will not be accepted>
17.	Quoted model should be European CE and USA FDA certified.
18.	The supplier must ensure the availability of expertise for service and maintenance at New Delhi. Uninterrupted availability of spare parts and repair for the next ten years must be assured by the principal in the form of an undertaking. Undertaking by the principal also to be given for providing maintenance services for 10 years in case there is change of local agent.
19.	The tender should be quoted in 2 bids-technical and price bids should be quoted in two separate, sealed envelopes. Quotations should be filled strictly under the headings given in the tender document. Incompletely filled quotations or information provided haphazardly will not be considered. All technical information provided in the quotation must be substantiated with attached original product data sheets. The compliance statement must include the page number and paragraph/line no. from the technical datasheet (in original) where the particular specification is being complied. with

20.	Out of three major components (Detector, X-Ray Tube & X-Ray Generator) at least two should be from the same manufacturer.

SPECIFICATIONS FOR HIGH END DOPPLER ULTRASOUND UNIT WITH BIOPSY

1. The system should be latest sate of the art **high-end** with full digital technology and should be for the whole body applications which would include abdominal, peripheral

vascular, small parts imaging such as Thyroid, Intra-cavity applications, etc. system should be trolley mounted.

2. The system should incorporate facility for high resolution 2D, 3D, 4D, M-mode, PW, HPRF PW, Color Doppler imaging, Power Doppler imaging, Duplex & Triplex imaging modes. The system should be capable of simultaneous dual display of B-mode & color mode.

3. All transducers should have Broad Bandwidth technology for extremely high resolution imaging. Frequency range of Transducers should be 2-17 MHz or more. All transducers should have multifrequency selection (Preferably more than three).

4. The system should have 30000 or more digital processing channels and the system should have 256 Grey Scale or more.

5. The system should have a scanning depth of 28 cms. or more.

6. The system should have a high dynamic range more than 180 dB.

7. The system should be able to support at least 3 transducers with universal ports allowing electronic switching between transducers.

8. The system should support Convex, Linear, Sector & Electronic Volume Probes.

9. The system should have a very high frame rate of at least 1000 frames per second in B mode and more than 200 fps in /Color mode. Please specify.

10. The System must have integrated high – resolution TFT/LCD/Single monitor of 19 Inches or more with tilt and swivel facility.

11. The system should have Tissue Harmonic imaging & should be available in Convex, Linear, Sector & Volume probes.

12. The system should be able to work in combined mode of Harmonic Imaging and Real time Compound Imaging to get excellent Image quality. The system shall offer Tissue Harmonic Imaging in Power Doppler Imaging mode.

13. The system should have contrast Harmonic Imaging and should have optimization settings to detect the Contrast Agents.

14. The system should have real time frequency and Spatial Compound imaging technology with multiple lines of sight to obtain the image at real time frame rates for improved visualization and better image quality.

15. The system should have image processing algorithms to analyse between targets and artifacts to as to sharpen target anatomy and reduce the speckle and artifacts for improved image quality.

16. The system should have a full alphanumeric keyboard/touch screen.

17. The system should have cine loop review facility in individual and mixed modes cine loop greater than 4000 frames and greater than 30 seconds of spectral Doppler and M mode. System should have 500 GB or more HDD.

18. The system should have the facility of digital storage and retrieval of B/W and color image data on built-in CD/DVD Drive.

19. Power Doppler Angio for perfusion studies should be available for visualization of flow in small vessels and system should be able to acquire flow in small blood vessels at very high frame rate.

20. The system should have automatic gain and STC/TGC controls in B-mode and velocity range and base line shift for Doppler through one touch operation.

21. The system should have trapezoidal imaging and steerable imaging for 2D image, Color box & Doppler with linear probe. Please mention the angle of steering for 2D & Color Box.

22. The system should have Panoramic imaging.

23. The System should be DICOM ready.

24. The system should have advanced 3D imaging package with the following :

    a) Multi planner Views (MPR).
    b) Surface & Volume rendering.
    c) 3D grey scale (B-mode).
    d) 3D power angio mode & 3D Color Doppler Mode.

25. The system should have Advanced 4D imaging package such as Live 4D, Single sweep, Multi-view (CT slice technology), Cavity mode etc. and system should be able to support all type of volume probes such as Convex Volume and TVS Volume Probe.

26. The system should have automatic real time quantification of Doppler Parameters like velocity, frequency, time, heart rate, slope, flow volume, pulsatility index, resistivity index, peak velocity, average volume, point value, area and diameter flow volume etc.

27. The system should have extensive calculation software package for general measurements, OBS,Gynae, Vascular, small parts & cardiac application.

28. Equipment with above mentioned features to be offered with following broad bandwidth probes & accessories:
    A. Broad band convex array transducer with frequency range 2-5 MHz. or better.
    B. Broad band linear array probe with frequency range 7-17 MHz. or better.
    C. Broad band transvaginal/transcretal probe with frequency range 5-9 MHz. or better.

D. Convex Volume probe with frequency range 2-6 MHz. or better.
E. Color Laser Printer.
F. B & W thermal printer with 100 high density paper rolls.
G. 2.0 KVA on line UPS for complete unit with 30 min. backup.

29. Please attach the original manufacture's product catalog and datasheets. Photocopied, computer generated catalogue and datasheet will not be accepted.

30. Five years complete warranty for the entire equipment, probes and accessories which should include service as well as parts with 98% uptime. In case of downtime exceeding 2% it will be extended by double the down time

31. Five years CMC after the expiry of the warranty also to be quoted covering the complete system for which order is placed.
32. The quoted model should be USFDA and European CE approved product.
33. Machine should have shear wave/whole body arfi elastography and provided with linear & convex probes.

34. The short listed bidders will have to give demonstration of their quoted model before finalizing the evaluation of their bids.

35. Principal vendor to provide undertaking with regard to providing maintenance /service and availability of spares for 10 years for the equipment in case local vendor changes.

TECHNICAL SPECIFICATION FOR
PORTABLE ULTRASOUND WITH COLOR DOPPLER SYSTEM

DICOM compatible fully digital, compact portable Colour Doppler Ultrasound machine is required with the following technical features:

1. The unit should be compact, lightweight and portable. Weight should not exceed 12kg excluding cart and accessories.
2. It should be suitable for abdominal, small parts and vascular applications in adults and paediatric patients.
3. Multiple preloaded as well as user configurable application presets should be available.
4. It should have 1024 or more digital channels for image formation and acquisition.
5. Transducers:
   (1) Convex 5 - 2 MHz for abdominal imaging.
   (2) Linear 13 - 6 MHz.
   (3) Endocavitory 8 - 5 MHz for transrectal ultrasonography and end firing biopsy, one each.
6. All transducers should be lightweight digital phased array broadband type transducers.
7. Detachable needle guide should be available with convex and endocavitory probes.
8. Imaging modes of Real time 2D, Colour Doppler, Pulsed wave Doppler, Power (energy) Doppler and triplex Doppler should be available.
9. Advanced features such as tissue harmonic imaging with contrast media and compound imaging Advance dynamic flow / HD flow should be available.
10. Controls for 2D mode: Total gain, depth, TCG, dynamic range, acoustic power output, number for position of focus.
11. Controls for Colour Doppler: PRF, colour gain, position and size of ROI, steering of ROI, colour maps and colour invert.
12. Controls for pulsed Doppler: variable sample volume size from 1 to 5mm or more, steer, PRF, baseline, gain angle correction, spectral invert, duplex/triplex on/off.
13. Measurements for 2D mode: Multiple distances, area and volume.
14. Measurements for Doppler modes: Stenosis quantification in percentage, diameter, PSV, EDV, mean, PI, RI, floor volume, acceleration time and index. Automatic and manual measurements and display of pulsed Doppler calculations should be possible.
15. Cineloop memory of minimum 10 seconds on all modes.
16. **Monitor**
    Flat LCD/TFT monitor of at last 15 inches or more.
17. **Keyboard**
    Alphanumeric soft keys keyboard with easy access scans controls and trackball.
18. **Storage**
    Onboard storage of atleast 1000 images. Storage in JPEG and AVI format should be possible.
19. Sorting of data base with patient name and date should be possible.
20. USB port connectivity to printer or computer.
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 back up should be at least 45 minutes or more.
24. The unit should be compatible with and should have facilities for interfacing with the hospital LAN.
25. Essential accessories: Black & White Thermal printer and color laser printer, UPS, mobile cart with transducer holder, jelly bottle holder and space for printer.
26. 200 roll of paper for image printouts should be provided.

27. The unit offered must be sturdy and should be able to withstand accidental hits and falls during transportation.
28. The unit offered in the tender will require technical demonstration.
29. List of users in India/world wide should be enclosed along with the tender.
30. Price of the main unit and accessories to be quoted separately.
31. Warranty:
    The unit, transducers and all accessories should be covered with comprehensive on site warranty for Five (5) years commencing from the date of issue of installation certificate.
32. Rates for comprehensive maintenance contract CMC (including all spares,batteries etc. and labour) for 5 years, after expiry of warranty period, must be quoted separately.
33. Photocopy of purchase order along with terms and conditions of contract received from any Govt/Public Sector institution in the last two years for supply of the offered equipment must be enclosed with the price bid
34. Company should have an established Registered Service Centre with address and phone numbers at Delhi.
35. 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.
36. The shortlisted bidders will have to give demonstration of their quoted model before finalizing the evaluation of their bids.
37. The quoted model should be US FDA & European CE approved.
38. Principal to provide undertaking for making available spares for 10 years. In addition undertaking to be provided for maintenance of service for the quoted equipment by the principal for 10 years in case local agent changes.

Colour Ultrasound Machine with biopsy

Technical Specification

The system should be latest fully Digital Color Doppler Ultrasound System and can be used for applications like Abdominal, Obs. / Gynae , small parts, Endocavitary, Pediatric & Vascular applications. The system should have following essential features:
1. The system should have the following image modes:2D,M mode ,PW, Tissue Harmonic mode , Color Doppler, Power Doppler mode.
2. The system should have minimum 15000 or more digital processing channels and 256 or more grey shades.
3. The system should have a very high dynamic range of 170dB or more and should independently selectable in B & M mode. Please specify the range.
4.The system should have a very high frame rate for B-mode & Colour mode. Maximum frame rate should be greater than 350 fps or more for B-mode
5. The system should be able to support all type of transducers (Convex, Endocavitary, Linear, Phased array and Intraoperative Transducers).Frequency range of all transducers should be 2-14Mhz.
6. Al transducers should have broad band width technology for extreme high resolution imaging. All transducers have user selectable multi frequency imaging .
7. The system should have Advanced measurement packages for all applications.
8. The system should an integrated high resolution TFT/LCD of 17 inches or more with facility of tilt and swivel along with convenient grip.
9. The system should have minimum three active universal ports & active ports can be directly selectable from the control panel.
10. The system should have scanning depth in the range of 2- 30cms.
11. The system should have a very high capacity Hard Disc Drive (min.160GB) for storage of images.
12. The system should have inbuilt CD/DVD R/W and USB ports for image export.
13. The system should have zoom facility both in real time and frozen image and it should be minimum 6 times or more in both real time & frozen modes.
14. The system should have minimum 6 steps transmitting focussing (transmit focal zones) and adjustable gain should be available up to 100 dB for B-mode & M-mode.
15. The system should have Directional Power Doppler to define the low blood flow directions.
16. The system should have HD-flow/Advanced dynamic flow to acquire the blood flow with directions in the deeper region at a very high frame rate.
17. The system should have automatic optimization in B-mode and auto adjustment of Doppler base-line & velocity range.
18. The system should have B-mode image steering & Color Doppler steering. Please mention the angle.
19. The system should have the facility of on-screen adjustment for Dynamic range, Frequency selection, Presets, Name of the patient etc.
20. The system should have advanced real time quantification for Doppler parameters like velocity frequency, time, heart rate, slope, flow volume, pulsatility index resistility index, peak velocity, average volume, point value area and diameter flow volume etc
21. The system should have extensive calculation software package for general measurements, vascular
22. The system should have the facility to view the Thumbnail images and system can be programmed for various users with the facility of user passwords.

23. The system should have the Trapezoid scan facility for linear probes.
24. The system should have Compound Imaging and Contrast Harmonic Imaging.(Please specific type of compound imaging offered)
25. The system should have the facility of having direct image print out through a B/W thermal printer.
26. The system should have real time 3D (4D) package. Please quote optionally for convex volume probe.
27. System should be offered with the following probes and accessories:
(a) Convex probe with frequency range of 3.0-6.0 MHz. (±1Mhz) with biopsy guide.
(b) TV/TR probe with frequency range of 5-8 MHz (±1Mhz).and minimum field of view of 125 degree with biopsy guide.
(c) Linear probe with frequency range of 6.0-11.0 MHz(±1Mhz).
(d) 1 KVA or appropriate capacity On-line UPS for operating system for at least 30 minutes.
(f) B/w Thermal Printer with 100 paper rolls.
Above mentioned probes must have multifreqency selection and THI.
28 Please also quote and provide the following:
(a) Linear probe 8-14 Mhz.(±1Mhz).
(b) High frequency convex probe of frequency 5-8 Mhz. (±1Mhz).for pediatric/ Neonatal application.
(c) Convex volume (4D) probe
(d) Intra operative probe (7-15 MHz) (±1Mhz).
29 Five years complete 98% uptime warranty for the entire equipment, probes and accessories batteries etc. which should include service as well as parts for which order is placed. Warranty shall be extended by double the down time if down time exceeds more than 2%/
30 Five years comprehensive maintenance charges (Machine + probes and all accessories, batteries for which order is placed) after five years warranty to be quoted separately with 98% uptime. CMC period will be extended by double the down time if it exceeds more than 2%
31. Please attach the original manufacture's product catalog and datasheets. Photocopied, computer generated catalogue and datasheet will not be accepted.
32 The shortlisted bidders will have to give demonstration of their quoted model before finalizing the evaluation of their bids.
33. The bidder should enclose the original product data sheet, brochure & 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.
34. Other accessories: Jelly Bottles (5 Nos.), Patient Examination Table, Doctor's chair, Patient Chair, curtains for changing room.
35. Should be approved product by USFDA and European CE.

PULMONARY CRITICAL CARE & SLEEP LAB. EQUIOPMENT

Ultrasound-cum-Echo Colour Doppler

A state-of-the –art compact portable Colour Doppler Ultrasound Machine is required with the following features:

1. The unit must be compact, portable and lightweight, weighting less than 10kg. approx.
2. Imaging modes: Real time 2D, Colour Doppler, Power Doppler, Pulsed Wave Doppler, Continuous Wave Doppler (on all cardiac transducers), Tissue Doppler Pulsed Wave Doppler (TDI PW) must be available.
3. Should give very high image quality with advanced technologies viz. compound imaging for better cardiac contrast resolution, tissue differentiation & edge detection, equivalent to high end cart based system.
4. Should be able to support speckle reduction imaging for better tissue differentiation & edge enhancement.
5. The system shall have the ability to enhance tissue margins & improve contrast resolution by reducing artifacts and improving visualization of texture patterns and needle tip within the image.
6. System should have both online (read) as well as offline (write) zoom facility.
7. Imaging modes of Real Time 2D, Colour Doppler, Pulsed Wave Doppler, Continuous Wave Doppler, Power Doppler must be available on all cardiac transducers.
8. System must have fast start up to scanning in less than 30 sec. from off condition, for use in critical & emergency situations.
9. System should support transducer technologies like phased array, convex, linear, TEE etc.
10. Cine memory on all modes.
11. The system shall process a dynamic range that is at least 150db. The system must be capable of display at a maximum depth of 35cm.
12. The system must have a dedicated cardiac calculation package with PISA, TDI calculation packages, vascular calculations package.
13. Unit must be sturdy.
14. Flat LCD/TFT monitor of at least 10 inches with flicker free image.
15. Alphanumeric soft keyboard with easy access scans controls, facility to sanitize the system keyboard to avoid cross contamination.
16. The system must have the ability to function on AC/DC or battery power with the same degree of functionality, the battery life (run time) shall be at least one hour, which needs to be demonstrated.
17. The system must have archive capability for storage and retrieval of images & clips data.
18. Data transfer facility should be available as standard to transfer images etc. easily onto another system/computer etc.
19. System should possess software for Enhanced Needle Visualization to track the needle clearly at steep angles during the procedures while managing striking imaging quality of the target structures and the surrounding anatomy with simple On/Off functionality. This facility should be available on both High Frequency Linear & Curvilinear Probes for superficial as well as deeper blocks.
20. The system shall support all the DICOM functionality, storage, print and work list. Also ready to connect to PACS.
21. The supplier/manufacturer shall provide a loaner system in case of failure of the system.
22. The equipment should be mountable on trolley and locking mechanism should be inbuilt into the trolley for safety & security of the system.

23. Trolley from the original manufacturer for the machine with hanging facility of probes.

Transducers to be supplied with the system as standard:

1. 6-13MHz multi-frequency, broadband linear array transducer for vascular, nerve imaging with less than 40mm size of vascular access, small parts, vascular, musculoskeletal interscalene, supervascular, axilliary, musculocutaneous, Politeal, Saphenous, Higher frequency will be preferred.
2. 2-5MHz multi-frequency, broadband phased array transducer for cardiac, abdominal, FAST, Imaging.
3. 2-5MHz multi-frequency, broadband curved array transducer for general purpose, abdominal, deep nerve access Specially Celiac, Sciatic Nerve, Epidural, Subgluteal & abdominal applications.

Sleep Lab.

Hard ware Specifications for PSG machine
1. Should have following Channels on each bed:-
* EEG * EMG *EOG * ECG * Nasal pressure transducer
* Thermistor *Respiratory Effort (to be measured with respiratory inductance Plethysmography)

* Snoring * Body Position, * CPAP Pressure * Limb Movement, * SaO2 * Pulse Rate,

2. For each bed (system):
a. amplifier must be compact, body wearable and light weight – Approximately
b. Referential Channels - at least 24 (Possible to configure all Referential Channels for EOG, EEG & EMG, as per requirement)
c. Bipolar Channels - at least 6
d. Additional DC Channels - at least 8(for External Peripherals like Capnography,Ph,Esophageaprmonitoring,etc)
e. Should be able to record systolic BP either from Pulse transit time signal or from 3 rd party stand alone device (non invasive blood pressure measurement from non inflating finger cuffs)

3. For each bed there should be Two integrated Pressure Transducers:
a. To measure direct CPAP Pressure (Facility to Interface any make of CPAP with the System)
b. To measure Nasal Pressure to assess Nasal Airflow without Nasal thermistor.

4. Should have Integrated Pulse Oximeter, body position sensor, light sensor and movement detection sensor.
5. Should have Integrated Bed side and on screen impedance check & self-calibration.
6. Should have adjustable gain and notch filters.
7. Should have fully compressed raw data stored on all channels.
8. Easy interface with CPAP machines of various makes should be possible, with ease in PAP titration. There should be provision for automatic calculation and display of apnea-hypopnea index as well as other parameters like desaturation index, live during recording of titration studies.
9. Should have Synchronized Digital video with Camera and Infrared source. Video camera should be with high audio quality without external microphone (Best available commercially), with provision for extraneous noise rejection/filtering capability. It should fulfill the following specifications:

High Resolution Camera Mounted on the system trolley with flexible stand to set the camera on any direction and angle. (Same or better than below)
*fully Remote / LAN Controllable, color, Auto Focus, Auto ICR
*1/4 type interline transfer CCD *752(H)
*582 (V) Pixels with 3.6mm (V) Scanning area
* High zoom ratio AF lens: 30
* Optical + 10* Digital.
*Wide Range Pan/Tilt: 360 endless pan/185 degree Tilt
*No/Low Light Sensitivity: 0.5 Lux in color and 0.04 in black and white
*PAL / CCIR Signal *Desktop and ceiling Mount Installation

10. Should have provision for power backup for at least 12 hrs and UPS for camera & computer.
11. Ability for wireless transmission of PSG data

Software Specifications
1. Should have ability for Re-referencing, Re-montaging and re-filtering at any time during a study or after the study has been recorded.
2. Should have provision for Real Time Access to studies for analysis of data currently being recorded from the review/recording station.
3. Should be interfaced to PC via LAN interface for data acquisition.
4. The System should be compact & modular in design and should have facility to hook-up directly to any LAN Port on the network and the data should acquire on sleep station (Sleep Lab PC).
5. Should have user definable Montages & Montage changes.

6. Should have independent, Selectable time basis for Upper & Lower portions of the Screen enabling review of fast moving traces like EEG in one half and slower Respiratory Waveforms on the other half, simultaneously.
7. Should have Sleep Staging options for Adult and Pediatric populations, configured according to latest AASM 2013 criteria
8. Should have scoring comparison (quality control) feature which will allow comparison between scoring by different users, including sleep stages, respiratory events and AHI, arousals and limb movements, with provision for calculation of percentage agreement between different reviewers / scorers.
9. Software should have the capability to display and analyze respiratory events linking with arousals, periodic limb movements and desaturations.
10. Should have the capability for periodic limb movement display and analysis with linking of individual limb movements with apnea / hypopnea and with arousals.
11. Software for cyclic alternating pattern analysis should be made available and it should be compatible with the operating software of the system.
12. It should display the detailed sleep apnea treatment steps for all modalities (CPAP, bi-level PAP [different modes], Adaptive servo ventilation and oxygen supplementation)
13. Antivirus security till the AMC or CMC (not free or trial version) - upgradable every year; should be made available with each system.

Review Station
1. Highest configuration Mac / Windows based 'all-in-one' desktop computers with at least 3rd Generation Intel CoreTM i7 Processor, 8 GB RAM or highest available, 21" LED color monitor, DVD R/W, Mouse.
2. Online PSG viewing software (2 nos.)
3. Licenses for review and analysis software for PSG equipment (4 nos.)
4. Software for networking all operating PSG systems with the review room.
5. Cable + Wireless Networking – (All PSG machines, Review station with 2 review workstations, Main review station (for Clinical Neurophysiology Lab, epilepsy monitoring unit)and Faculty office Wireless access points Access switches – 5 Server: External, with 10 TB capacity (and upgradable Cabling)
6. Archiving facilities: 2 high capacity servers each with 10 TB capacity each
7. High speed wireless internet connectivity with advanced security – for all PSG computers
8. 26" LED monitor – 2
9. Wall to wall stainless storage panels for secure storage of accessories, lab stationary and portable equipment.

Treatment facilities to be supplied with system:
1. Multimodality titration equipment (enabled to titrate CPAP, Bi-level and ASV)
2. Capability to remotely control PAP treatment parameters live, from the review station, without entering patients' cubicles.
3. Multiple types of masks of different sizes (at least including pediatric and adult in small, medium and large sizes; full face, nasal mask and nasal pillow types)
-2 Duplicate sets of accessories should be supplied, along with price list of all accessories

Portable Sleep Lab.

1) Should be light weight (less than 100gms) that can be easily worn on the patient.
2) Should have ten channels in the main screen with four channel display simultaneously on the screen.
3) Should have integrated Flow and Nasal sensors, thoracic and abdomen efforts, Spo2, Body Position and moment.

4) Should have capability to have four EEG Channels , 2 EOG and 1 EMG channels for Sleep Staging
5) Should have automatic event detection, automatic detection of artefacts.
6) Should have facility of standard and configurable report formats. Should give the comprehensive report with automatic calculation of AHI and RDI.
7) Should have LCD Display with a battery backup of minimum 12Hours.
8) The system should have the ability to work on battery so that there is no electrical interference to the machine.
9) Should have automatic analysis,detection of Apneas/Hypopneas, Bradycardia/Tachycardias.
10) Should have ability for re-referencing, re-montaging and re-filtering at any time or even after the study has been recorded.
11) The system should have capabilityto record Systolic and Diastolic BP either from PTT signal or from 3rd party standalone system offering NIBP measurement from non-inflating soft finger cuffs that can directly be interfaced with the machine.
12) Should have capability to export and import the complete study in EDF Format, exe format, and reports can be exported to Excel and PDF format.
13) The unit should have capability of doing wireless data transfer / online signal check facility with the transfer of data to Tablet Pc through Bluetooth.
14) The unit should be warranted for minimum two years.

Actigraph

1. Should have moisture protection and increased resistance to environment challenges.
2. Watch should be water proof, battery operated and light weight (less than 40gm)
3. Should run on chargeable batteries, which should have sufficiently long life to run and interrupted for at least 7 consecutive days.

4. Should have capability of recording 24-hr sleep-wake activity
5. Should have capability of recording sleep variability, quality and quantity of sleep
6. Should have capability day time activity pattern
7. Should have capability of simultaneously monitoring, analyzing and storing data of sleep wake activity for > 24 hrs continuously.
8. Should have capability of monitoring luminous flux and irradiance
9. Should have provision for interface with PC for data download, post processing and print out.
10. Memory 1 M bit non-volatile or better
11. Chargeable Li ion/Li polymer battery for Dock and watch both
12. Data communication rate 56 kbps or better

The epoch length, filter setting and sensitivity should be programmable.

SPECIFICATIONS FOR PRECISION SPIROMETER

For the measurement, Computation and Printout of Data/Graphics in Full For:

- Spirometry &Flow Volume Parameters and all sub-divisions,

- Maximum Ventilation Volume(MVV),

- Pre & Post Bronchodilator Comparison.

System should incorporate Precision Bi-directional Re-usable Heated Pneumotach for Highest accuracy & Reproducibility.

Flow Range : 0 – 20 L/s
Accuracy : 0.2 – 1.2 L/s, +/- 2%
Resolution : 10 ml/s
Resistance : < 0.05 kPa/(L/s)(0.5 cmH2O/(L/s)) at 10 L/s

Volume Range : +/- 20L
Accuracy : +/- 3%, +/-.05 L (whichever is greater)
Resolution : 1mL

Should meet all international standards, ERS/ATS guidelines, ISO and US FDA etc.

Additional Accessories
Pneumotach Screens 5 Nos
Pulmonary Filter (100 Nos)
Nose Clip (10 Nos.)

Laptop Computer with i3 Processor, 2 GB RAM,
18.5" TFT Colour Monitor, Keyboard,
Serial, USB Ports, Mouse, Windows XP,
DVD R/W, Hard Disc Drive (1x500GByte),
HP Laser Printer, UPS

VIDEO BRONCHOSCOPE
Tender Requirements:
1. BRONCHOSCOPE
2. COLOR VEDEO MONITOR
3. VIDEO PROCESSORS
4. COLD LIGHT SOURCE

5. RECORDER
6. TROLLEY

Bronchoscope
1. The working length of the Bronchoscope should be 60 cm or more.
2. The outer diameter should be 6.2 mm approx.
3. Working channel diameter – 2.8 mm or above, with closed suction system.
4. Colour CCD chip integrated with the bronchoscope which can generate brilliant high resolution full screen video images
5. Leak testing facility
6. Total length around 870 mm
7. Angulation up 180 degree, down 130 degree
8. Filed of View should be 120 deg. Or more
9. Depth of Field should be ...mm or better

COLOUR VIDEO MONITOR
To support endoscopic applications with high resolutions clarity of images perfect observation (approx 600 TV Lines)
Easy to use controls
Remote controls
On screen menu for image adjustment
Variable inputs signals :REB, Y/C and composite
Colour setting: Two REB input signals can be observed simultaneously for printer.
REB split mode

VEDEO PROCESSORS:
Should provide flicker and blur free images
Colour CCD technology to provide perfect colour reproduction
Provision for still image / video capturing and digital recording. Image resolution atleast 1.2 megapixels

LIGHT SOURCE
Compatible light source for color CCD video Bronchoscope system
Automatic light adjustments to maintain optimum brightness
Xenon lamp 300 W
It should be supplied with suitable voltage stabilizer.

RECORDER
Ability to record in digital format with ability to output image and video sequences in CD/DVD Rom
Should provide standard accessories TROLLEY

Standard accessories made by principal manufacturer:
- Suction valves: 20
- Biopsy valves: 20
- Biopsy forceps: 10 (reusable) incl. Rat-tooth, alligator & cusp types)
- Cytology Brush: 5

SPECIFICATIONS OF FLEXI-RIGID VIDEO THORACOSCOPE

SYSTEM INCLUDES :

i) Video Thoracoscope (with deflectable tip)
ii) Universal Video Processor

iii) Xenon Light Source
iv) High Resolution LCD Monitor

VIDEO THORACOSCOPE (with deflectable tip):

- Light weight & fully immersible in disinfectant solution.
- Provision for Autoclvability(Preferably for all detachable components)
- 3 or 4 Nos.of remote switches for user's convenience to control operationalfunctions.
- Compatible with semi automatic leakage tester with airflow regulation from attached light source airpump.
- Compatible with electrosurgical and laser treatments.
- Insulation (ceramic or better material) tip for provision while doing electosurgical procedures.

Field of view : 120 degree or more
Depth of field : 3mm to 100 mm or better
Direction of view : Forward viewing
Distal End Dia. : 7.0 mm or less
Insertion Tube Dia. : 7.0 mm or less
Working length : 270 mm or more
Min. Visible Distance : 3mm from distal end
Instrument Channel Dia. : 2.8 mm or more
Flexible Tip Bending : UP – 160 deg. DOWN – 130 deg.

Standard Set Should include Following Items otherwise to be quoted separately:

Swing Jaws – Biopsy Forceps (with needle) 10 pieces
Cytology Brushes (1 set of minimum 10 pieces)
Cleaning and maintenance kit,
Semi disposable leakage tester with its air flow & pressure regulation through air pump in compatible light source.
Spray Catheter (10 nos.).
Electrosurgical Coagulator.
Flexible Trocar set for safety of bending tube of Thoracoscope. (50 fifty)

UNIVERSAL VIDEOPROCESSOR :

- Independent & Compact unit with high resolution & HD imaging Capacity
- Preferable provision of Narrow Band Image Processing Capacity.
- Picture in Picture display Possibility.
- Compatible with all types of Videobrochoscopes, Thoraco (Pleura) videoscopes and should be compatible for EBUS (Ultrasound System) also.

HDTV & SDTV Signal output : RGB or YbpPr output
High Definition / SDI Output : For Long distance transmission of video signals.
Should have automation Gain Control and Contrast Control Functions.
Edge Enhancement : 3 to 8 levels of switchable settings
Structure Enhancement : Dual Mode upto 7-8 levels of switchable settings
Image display size : 3 or 4 different sizes of image display on monitor

XENON LIGHT SOURCE (300 watts)

- Separate and independent unit with high intensity Xenon Lamp (300 watt) & Provision of special NBI filters will be preferred.
- Emergency Halogen light and forced air cooling.

Main Lamp : Xenon Short Arc lamp (300 watts) with switching regulator mechanism
Main Lamp life : Appx. 500 hrs on continuous use.
Emergency Lamp : Halogen 12Volt 100 watts.
Power Supply : 220 – 240 V AC, Frequency 50/60 Hz, Input Current 3 A

LED MONITOR :

21" High Resolution LED Colour Monitor

COMPUTER :

Computer with windows 8 or windows 7 with 32" monitor, CD-DVD R/W, 8 GB RAM, 1 TB Storage, ^ USB Ports, Webcam, Optical Mouse, and Keyboard, Bluetooth, WIFI connectivity, Colour LaserJet Printer, NORTON Antivirus, Double battery UPS (with at least half hour backup)

RIGID BRONCHOSCOPE SET

WL (Working Length)

Bronchoscope Tube
1) 4mm WL.215mm.
2) 5mm WL245mm
3) 5.5mm Wl.265mm
4) 6.0mm WL265mm
5) 7.0mm WL365mm

Forceps:--
WL.350mm
1) Alligator FB forceps (1)
2) Universal forceps (1)
3) Fenestrated forceps for soft FB (1)
4) Peanut forceps (1)
5) Magnetic Extractor (1)

WL.450mm
1) FB forceps alligator
2) Universal forceps
3) Grasping forceps for soft FB
4) Peanut forceps

ACCESSORIES
1. Adaptor with sliding glass window plug, Sealing cap, notched lens and key hole opening, movable.
2. Plug for ventilation Attachment of Bronchoscopes.
3. Adaptor from Bronchoscope to any type of pediatric respiration equipment .
4. Atomizer with bulb working length 50 cm,(2)
5. Laryngeal Atomizer with bulb (2)

Suction tube , length 50 cm, diameter2.2.5 & 3cm(2 each)

Pulse Oximeter

1 Description of Function
1.1 A pulse oximeter is a medical device that indirectly measures the amount of oxygen in a patient's blood (as opposed to measuring oxygen saturation directly through a blood sample) and changes in blood volume in the skin, producing a photoplethysmograph

2 Operational Requirements
2.1 Suitable for all types of Patient range :Adult, pediatric, infant, and/or neonate
Suitable for all types of Patient range: Adult, paediatric Standalone type
for Continuous monitoring in ICU (Not hand held type).

3 Technical Specifications
3.1 Display- LCD, Backlight illuminated
3.2 Parameters and waveform displayed- SpO2, pulse rate, system status, plethysmogram, menus for user settings
3.3 SPO2 range- 1-100 %
3.4 Accuracy of SPO2- 3%
3.5 Pulse rate range should be 25-240 bpm
3.6 Audiovisual Alarms- High/low SpO2 and pulse rate, sensor off, sensor failure, low battery
3.7 Alarm override facility
3.8 Cable length should be minimum 1 metre
3.9 RS 232C Interface for data communication
3.10 Integrated Printer / External Printer
3.11 Battery back-up operating time 5 hours.

4 System Configuration Accessories, spares and consumables
1.1 System as specified-
1.2 SpO2: Adult SpO2 sensor with cable- two nos. per monitor, Neonate SpO2 sensors- one no. per monitor and Paediatric SpO2 sensors - one no. per monitor.

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

6 Power Supply
6.1 Should work on 220-240V AC as well as batteries. Mains adaptor to be supplied
6.2 Rechargeable battery operated system. Charger to be provided if integrated charger is not there

7 Standards, Safety and Training
7.1 Should be US FDA or European CE approved product
7.2 Manufacturer/Supplier should have ISO certification for quality standards.

8 Documentation
8.1 User/Technical/Maintenance manuals to be supplied in English.
8.2 Certificate of calibration and inspection.

SPECIFICATIONS OF PULSE OXIMETER CUM CAPNOGRAPH

Capnograph:

- Solid state mainstream sensor. Single beam, non-dispersive infrared absorption, ratiometric measurement.
- INITIALIZATION TIME: Capnogram within 15 sec, full specifications within 60 sec.
- CALIBRATION:15 sec adapter zero performed when changing to different style of adapter.
- ACCURACY VERIFICATION: Accuracy verifier provided on sensor cable.
- CAPNOSTAT MAINSTREM CO2 SENSOR:
  Size: compact light weight
  Shock Resistance: Withstand repeated 6 foot drops.
- AIRWAY ADAPTERS: Adult/paediatric reusable or single patient use(added dead space< 5cc), neonatal reusable(added dead space< 5cc), and sampling adapter for non- intubated patients.
- SAMPLING FLOW RATE: 180 ml/min(for non-intubated patients)
- CO2(CARBON DIOXIDE) :
  Compensations: N20 & O2 (selectable), BP(automatic)
  Capnogram: Selectable sweep speed(12.5 or 25 mm/sec) Range: 0-100 mmHg
  Accuracy: 2mm Hg(for 0-40 mmHg) 5% of reading(for 41-70 mm Hg) 8% of reading (for 71-100mm Hg)
  Resolution: n1mm Hg Response Time: 60 ms
- RESPIRATORY RATE:

Accuracy: 1 br/min
Range: 0-150 br/min
Resolution: 1 br/min

Pulse Oximeter

- Red/Infrared absorption
- SpO2(OXYGEN SATURATION)
  Range:0-100%
  Accuracy: 2% SpO2(for80-100% SpO2) (1 SD, or 68% of readings within claim)
  Unspecified for 0-79%
- SpO2
  Resolution: 1% Averaging: Menu Selectable, 2 or 8 sec.
  Audio: Pitch of pulse tone varies with SpO2 value.
- PULSE RATE:
  Range: 30-250 bpm
  Accuracy: 1% of full scale
  Resolution: 1 bpm
  Averaging: 8 sec.
- SENSORS: Reusable Y-Sensor (can be sterilized and used with all patient populations); reusable adult finger sensor.
- PLETHYSMOGRAM: Pulsatile waveform with autogain on /off selection.

General

- ALERTS:
  Limits: Adjustable limits for ETCO2, SpO2, Resp. And Pulse Rates.
  Audio: Adjustable volume, 2 min. Silence or 0FF(LED indicators)
  Visual: On-screen & red “Alert Bar”
- DISPLAY
  Type: Dot Matrix, Cold Cathode Dispaly(CCD)
  Size: Compact
- GRAPHIC TREND/HISTOGRAM
  Memory: 24 hr., battery backup
  Format: On-Screen or printed, in 30 min.,2,8, or 12 hr. Segments
- COMMUNICATION OUTPUT
  Digital and Analog
- ELECTRICAL
  Power Requirements: 100-120/200-240 VAC, 50-60 Hz, 30 VA, compatible with Indian Standards
  Battery: Sealed lead acid gel cell, long life, 12 hr. Recharge

S.No	Technical Specifications – Haemodialysis Machine (Hybrid) & for continuous Renal Replacement Therapy
1.	l. Machine should have facility for variable Sodium, Acetate, Bicarbonate, Regulated Ultra Filtration, Sequential Dialysis (isolated UF)
2.	2. Ready available LAN connection so that it can be linked with Patient Data Management system for future use.
3.	3. The blood pump should be able to run at least from 30ml- 600ml and should run even in the absence of water or dialysis flow.
4.	• Should have facility for conventional dialysis, Hemofiltration, Hemodiafiltration with own prepared substitution fluid.
5.	• The equipment should be able to operate and monitor the extracorporeal circuit without interruption for 20-30 min. in case of AC power failure by backup battery
6.	• Should have Na and UF profiling and bicarbonate adjustment according patient requirement.
7.	• Dialysate temperatures selectable between 35°C to 39°C or wider
8.	• Variable conductivity setting between 12.5 to 15 mS/cm or wider
9.	Bi-carbonate delivery by solid Bi-carbonate powders (dry system) and online clearance kT/V
10.	• Should have variable dialysate flow at least 100ml - 1000ml/min and should have increasing facility in steps
11.	• Should have facility to show trends curve of all parameter for complete treatment.
12.	• Heparin pump with adaptability of various sizes of syringes up to 30 ml with pump flow rate from 1-10 ml/hr (0.1 ml increments)
13.	• Ultra filtration 0 to 3liters/hr. or more,
14.	• Treatment parameter should be displayed by graph and digitally both
15.	• Should have integrated heat and chemical disinfection facility with both short and long disinfection program with day, night and week schedule.
16.	• Should have separate Bleaching (sodium hypochlorite) chemical portto avoid wrong selection of disinfection program.
17.	• Should have auto feedback control conductivity mixing technique as per selected dialysis conc. Fluid.
18.	• Should have emergency mode to provide quick relief to patient in hypotension condition.
19.	• Should have accurate UF control by flow by volume control measurement technique
20.	• Should have Blood TemperatureMonitoring to control patient body temperature and to check blood recirculation.
21.	• All important data should be pre-settedwith the help of data card or other method so that machine can be used anytime without feeding data every time.
22.	• Should have automatic self-test facility to ensure its functioning.
23.	• Should have auto ON/OFF Facility
24.	• Should have user friendly display system with touch screen.
25.	• Machine can be connected to computer to feed all data and trouble shoot whenever any problem
26.	• Blood pump rate at least from 50 - 600 ml/min for dedicated and with extra patient safety A-V bloodlines.
27.	• Alarm for Ultra filtration and also be able to do sequential dialysis
28.	• Machine should have built in non-invasive device for measuring the patientblood pressure automatically along with pulse rate.

29.	• Audio visual alarms on limit violation of conductivity, blood leak, air leak, trans-membrane pressure, Dialysis temperature, Hemodialysis Completion, end of disinfection process and blood pump stop, dialysis end.
30.	l. The unit shall be capable of being stored continuously in ambient temperature of 0 to 50°C and relative humidity of 30-90%
31.	2. The unit shall be capable of operating continuously in ambient temperature of 15 to 35°C and relative humidity of 30-95%
32.	• Power input to be 220-240VAC, 50Hz fitted with Indian plug.
33.	I. Should be either US FDA or CE or BIS/ Certified
34.	II. Manufacturer/Supplier should have ISO certification for quality standards.
35.	I. User manuals to be supplied in English.
36.	• Bi-carbonate delivery by solid Bi-carbonate powders (dry system) and online clearance kT/V
37.	• Automatic diagnosis of malfunctioning with on line message to show the faults.

Endo-Bronchial Ultrasound System (EBUS)

System Includes:
I. Ultrasonic Broncho fiber videoscope (for EBUS-TBNA)
II. Radial EBUS system
III. Ultrasound Processor with Colour Dopper function
IV. Video Processor & Light source
V. High resolution Monitor
VI. Endoscope Reprocessor (Automatic with Ultrasonic Cleaning provision)

Specifications:
1. Ultrasonic Broncho fiber videoscope (for EBUS-TBNA)

1.1 Field of view	At least 100º (at least 45º forward oblique)
1.2 Depth of field	Approximately 2-50 mm
1.3 Tip deflection	Up at least 120º
	Down at least 90º
1.4 Rigid distal width	Probe not more than 6.5 x 7.0 mm
	Optic not more than 7.5 mm
1.5 Insertion tube outer diameter	Not more than 6.5 mm
1.6 Instrument channel width	At least 2 mm
1.7 Working length	At least 600 mm
1.8 Total length	Not more than 900 mm
1.9 Acoustic frequency	5-10 MHz switchable
1.10 Scan Direction	Longitudinal
1.11 Scan System	Convex
1.12 Scan Angle	75º

2. Radial Probes
2.1 Probe driving unit must support wide range of EUS and EBUS Procedure.
2.2 Frequency range of 7.5 to 30 MHz enabling observation at high frequencies to provide higher resolution of Superficial Layers
2.3 Dual-plane reconstruction combining radial and linear images.
2.4 Total Length – 1850 mm or less
2.5 Weight – 1.5 Kg or less
2.6 Ultrasonic Probe 1.7 mm that fits through a 2.2 mm Diameter Channel of a Standard bronchoscope with a Frequency of 20 MHz – 1 No.
2.7 Ultrasonic probe diameter of 2.6 mm with Balloon Sheath and can easily fit through and bronchoscope with channel Diameter of
2.8 mm or more with a Frequency of 20 MHz – 1 No. 2.8 Ultrasonic Probe Slim 1.7 mm Outer Diameter with Frequency of 30 MHz – 1 No
2.9 Ultrasonic Probe diameter of 2.6 mm with Balloon Sheath can easily fir through any bronchoscope with channel Diameter of 2.8 mm or more with a Frequency of 30 MHz – 1 No.

3. Digital Color Video Processor
3.1 Single CCD color, high resolution HDTV & narrow board imaging compatibility
3.2 300 W xenon lamp with a spare bulb
3.3 Video output – 2 RGBs connectors, 2 Y/Connectors, 1 composite video connector at least
3.4 1 printer control connector, 2 external device control connectors
3.5 1 serial connector
3.6 Power consumption 230V
3.7 Weight – preferably less than 20 kg.

3.8 Should be controlled from the front, keyboard or endoscopy remote switches
3.9 Should be capable of white balance & adjustment, have provision for standard color change, adjustment automatic gain control (AGC), image enhancement, selection etc.

4. Monitor
4.1 19" High resolution LCD or higher (LED) color monitor compatible with processor with full range of colors & inputs including viewing angle as needed for proper functioning
4.2 Power consumption 230V

5. Digital Ultrasound Scanner
5.1 Compatible with the above EBUS puncture scope & radial brobes
5.2 Real time 3D image
5.3 Omni directional M-mode, B-mode and Doppler mode
5.4 Hi support-automatically optimize the B-mode and Doppler image parameters (gain, baseline, PRF etc.)
5.5 Picture in picture for both ultrasound and endoscopic image simultaneously
5.6 High definition dynamic tissue harmonic imaging
5.7 High resolution imaging
5.8 Ergonomic operation keyboard
5.9 User programmable calculation package
5.10 Annotation, arrow mark and point display
5.11 Waterproof remote control
The whole system should function on 50Hz / 220VAC

6. The EBUS system should be supplied with automatic dishwasher for cleansing & disinfection having minimal following specifications:
1 Automatic washing and cleaning of bronchoscopes
2 Capacity / Basin Basins per system At least one Scopes per basin At least one Basin size 47.0 cm depth x 39.5 cm width (50x40) Basin volume 15L (maximum) 12 -15 L
3 Total Cycle Time 15-20 minute per cycle
4 Scope Loading Top loading
5 Scope connection required Yes
6 Filter Media 0.1 to 0.2 micron filter
7 Minimum effecting concentration (MEC) access port
8 Power Capable of operating on 220V 50Hz AC

8. Essential Accessories
7.1 EBUS puncture needles (10 nos.)
7.2 UPS for backup of the whole system including ultrasound generator
7.3 Mobile trolley to mount the EBUS system and ultrasound
7.4 All other essentials / accessories required to make the machine function optimally
7.5 Recording System for review & publication

IABP (Intra Aortic Balloon Pump)

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

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

3 Technical Specifications
3.1 Pneumatics: Drive system: Stepper motor driven bellows Drive gas- Helium (Available with disposable canister or refillable cylinder. Pumping Volume: 0.5 cc-50 cc Counter pulsation rate: 40-200 pulsations per minute
3.2 In Automatic Mode: System should be capable of automatically selecting appropriate trigger i.e. ECG or Pressure and also accurately select the inflation and deflation points, in automatic mode. In automatic mode of operation user should be in control of the deflation point. In Automatic mode Advance software should automatically adapt the timings for various rhythms and rate variations, without any user intervention. In Automatic mode it should automatically identify Arrhythmias and adopt R wave deflation mode for better patient support, without any user intervention In Manual mode the system allows user control of most of the pump functions.
3.3 Should be able to trigger on 7 mm Hg of Pulse pressure when used in Pressure Trigger mode
3.4 Single key start-up to make it fast, user friendly and easy to use
3.5 Should be able to display at least 3 wave forms as ECG, Invasive Pressure and Balloon Pressure wave forms
3.6 Large display for brighter and very good visibility from a distance in lighting conditions
3.7 On screen indication for Helium level in the cylinder and battery level for timely intervention and correction.
3.8 ECG inflation marker to indicate inflation period on ECG which can be useful when arterial pressure form is not available.
3.9 On screen indication of standby time and should give alarm after 15-30 minutes, to draw user's attention on the system being on standby
3.10 System should be approved for use on Paediatric patients and Paediatric balloons should be supplied with the system.
3.11 Optical Blood leak detect for early indication of blood coming into the balloon lumen due to IABC leak
3.12 Should have extensive Help Text available during start-up to make the system easy to use even for new users.
3.13 Should give extensive Help messages to correct the alarm conditions that are specific to the alarm condition. This should help the user to overcome the alarm problems immediately and with ease.
3.14 Should be capable of removing condensation automatically without user intervention and should be maintenance free.
3.15 Should have Peripheral Vascular Doppler for detecting limb ischemia, which is attached to the main equipment
3.16 Should have automatic Altitude correction to make it safer for the use during Air Transport
3.17 Should have software which allows the user to monitor the IABP from any remote location via a modem
3.18 In-built Comprehensive Service Diagnostics to help the technician to locate the fault immediately
3.19 Should have capability to connect on the Hospital network
3.20 Integrated Printer OR Chart recorder to print the reports.

4 System Configuration Accessories, spares and consumables
4.1 System as specified-
4.2 System should be supplied with the following: ECG cable with Refillable Helium cylinder compatible with the IABP system Qty: 3 Nos.
4.3 Intra Aortic Balloon Catheter for Adults, Size: 40 cc Qty: 2 Nos. Intra Aortic Balloon Catheter for Adults, Size: 30 cc Qty: 2 Nos. Intra Aortic Balloon Catheter for Paediatrics, Size: 12 cc Qty: 1 No Intra Aortic Balloon Catheter for Paediatrics, Size: 10 cc Qty : 1 No Reusable Invasive Blood pressure transducer system with pressure flush device system. Qty: 2 Nos.

5 Environmental factors
5.1 Shall meet IEC-60601-1-2:2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility. Or should comply with 89/366/EEC; EMC directive.
5.2 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity
5.3 The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90%

6 Power Supply
6.1 Power input to be 170-270 V AC, 50Hz fitted with Indian plug
6.2 On line UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.

7 Standards, Safety and Training
7.1 Should be US-FDA/ European CE approved product (Copy has to be enclosed)
7.2 Manufacturer/Supplier should have ISO certification for quality standards.

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

PULMONARY REHABILITATION SYSTEM WITH FOLLOWING COMPONENTS:

a).ACTIVE PASSIVE TRAINER

- System should have the training analysis for performance of Upper and Lower Limb.
- Should have Muscle Tone analysis with Symmetry Training
- Should have safety foot shells for feet and leg guides with calf shells to secure support for the legs.
- Leg guides should have suspension system to avoid pressure marks.
- Electronic leg insertion aid to aid helps to insert and remove the legs.
- The unit should be height adjustable.
- Range of motor power in steps: 1- 16N.
- Velocity range: 0-60 rpm.
- Speed should be reduces automatically.
- The unit should have got servo cycling mode
- The unit should be compatible with Functional Electrical Stimulator
- The unit should have got movement protector & spasm control also.
- The unit should have got gear shift control in the range of 1-20 steps.
- Should have International Safety Standard Certificate
- Power Supply 220-230V/50Hz

b).CHEST VIBRATOR

The unit should have the following features:

- 20 Volt Brushless motor with internal 24 Volt/150 W Transformer.
- Variable frequency controls 0-60 Cycle Per Second.
- Rolling caster stand & accessory tray.
- Must have Physio kit of 4 different applicators for Soft Massage, Deep Massage, Trigger Point, and Relaxation Drainage.
- Directional – stroking combines both Horizontal and Vertical Forces.
- Useful for Pulmonary Physiotherapy, Sports Therapy, Chiropractic, Osteopathy.
- Operable on 230 Volt/50 Hz.
- Should have the international safety standard like CE?TUV

c).EMG BIOFEED BACK

The system should have following features:

- 2 – Channel EMG feedback.
- 2 – Independent, fully galvanically isolated current channels.
- 1 – Channel pressure feedback.
- 3 – Different feedback modes-Continuously work/rest and template.
- Current types-16 and 36 variants.
- Programmable position-unlimited
- Pre-programmed programs >100.
- EMG or pressure signal graphically reproduced with adjustable sensibility and time peak.
- Combined application of EMG-feedback with electrotherapy.
- Combined application of EMG with pressure feedback.
- Analysis of the EMG and pressure measurement.
- Connections for various surface and cavity electrodes.
- Can be upgraded with a Vaccum unit, Ultrasound modul.
- Measurement rage EMG-4-10000 µv and logarithmically.
- Measurement range pressure 0-more than 350 hpa.

 Adjustable, scratch resistant TFT monitor.
 Data transmission can be performed by Bluetooth.

d).MOVEMENT THERAPY SYSTEM FOR PATIENTS IN SUPINE POSITION

The unit should have the following features:

 Active, Passive and motor supported movement for lower limbs and upper limb along the bed side.
 The unit should be simply fitted to the bed with easy moving spring-supported height adjustment.
 The unit should have an adjustable bed mounting adjustment.
 The unit should be adjustable in distance to the patient
 The chassis width of the unit should be adjustable from 43cm to 73cm
 Should have safety foot shells with outwards rotation
 The leg guides must have suspension systems to avoid pressure marks
 Electronic leg insertion aid to aid helps to insert and remove the legs.
 Should have a movement protector.
 Should ease the spasm with the Spasm Control with automatic change of direction of rotation.
 Should have the function Servo Cycling.
 Should have at least 3 Training Modes Passive training (with motor)
 Active training Assistive training
 Range of motor power in steps: 1-17Nm
 Velocity range: 0-60 rpm Resistance for active training in steps: 1Nm - 12Nm
 Should have a time function in steps to adjust the therapy time from 1-120 min

e).PULMONARY REHAB TREADMILL

 The unit should have 2.5 to 3.0 HP DC Motor continuous heavy duty.
 The Unit should have the Motor Capacity of 2500W to 3000W.
 The unit should have 0.4 to 18 .0 KMPH speed range easily adjustable in .1 grades to cater multi purpose usage as patients need.
 The unit should have positive slope angle 0% to +15% in steps of 0.5%.
 The unit should have negative slope angle 0% to -10% in steps of 0.5%.
 The unit should have walking surface 145 -150 x 45-50 cm
 The unit should have step of height of 10-12 cm
 The unit should have LCD /TFT Color display with backlight
 The unit should have Auto speed, clinical evaluation, low threshold, progressive shock absorption facility.
 The unit should work on Dual Slope Technology
 The unit should have patient weight capacity of 230 to 235 Kg to provide sturdy and anchoring he ground surface.
 The unit should have test protocol multi functional handlebar, software to display the parameters.
 The unit should have international safety standards like CE/TUV

f).SEMI-RECUMBENT ERGOMETER

The Unit should have the following features.

 Elliptical motion - provides smooth continuous “zero joint impact” exercise Self-powered, self-charging, cordless capability - use it anywhere
 1:1 arm to leg motion - for natural arm swing rhythm
 Rotating seat to 90° on either side and step through design - for easy and safe entry and exit
 Optimized seat height - for wheelchair transfers and controlled hip flexion
 10 watts to 600 watts load of resistance - to accommodate a wide spectrum of users

 Constant resistance with 30 effort levels and profiles - provides greater program options Integral contact and Telemetry heart rate monitoring - to ensure proper training intensity Sturdy, well-placed grab handles to facilitate patient transfer
 Large easy-to-use "Quick Start" display -features time, RPM, watts, calories, METs, total steps, heart rate; preprogrammed exercise profiles that automatically adjust effort levels
 RS-232 communication port-data collection software Portable
 Resistance : Constant resistance with 30 effort levels
 Heart Rate Monitoring: Polar® Telemetry (chest strap) and contact handgrip
 Certifications : International Safety Standard Certificate.

g).UPPER BODY CYCLE

 The unit should have instantaneous Retro-cycling.
 The unit should have Pivoting actuator for wide range of cycling position.
 The unit should have constant power control level for aerobic exercise.
 The unit should have Isokinetic mode.
 The unit should have a possibility for Cardiopulmonary Exercise.
 The unit should have constant resistant power(effort level control):39 effort level 5 –watt increments from 110 to 300 Watt.
 The unit should have isokinetic speed control : 20 speed settings(increments of 5 deg/sec.)
 The unit should have Work Rate Range : 10 watt(25 rpm) to 600 watts (120 rpm).
 The unit should have Speed control range : 25 to 120 deg/sec.
 The unit should have display of Time,RPM,watts,calories,METs,heart rate.
 The Unit should have Communication through RS232 cable.
 The unit should have Tilting display for maximum visibility.
 The unit should have smooth acceleration and deceleration.
 The unit should have programmable LED display.
 The unit should have large removable rotating seat for direct wheel chair access.
 The unit should works on 220-240 V AC as well as on rechargable battery
 The unit should have International safety StandardsCE/ETL.

NON-INVASIVE VENTILATOR

Technical Specifications
1.1 Compact ,light weight high perfprmance non - invasive ventilator with minimum 5 " LCD/TFT screen 1.2 Operation mode: Bi-level (2 pressure levels)S/T/ST
1.3 Pressure range IPAP: 5 – 30 h P a (mbar) EPAP: 5 – 20 h P a (mbar)
1.4 Constant display: Pressure value, bar graph, date, time, alarm-clock-state
1.5 Should have additional Function Automatic leak compensation - Start-stop-automatic-control - Fall asleep – ramp 0-60 min - Leakage Test 0-90 s - Date, Time and Wake – up- function - Power failure alarm - Leakage alarm - Automatic Turbine start after power failure - Time counters : stand –by, turbine running, filter age, therapy - Adjustable time delay
1.6 ST-operation – S: Spontaneous : Triggered by respiration (trigger sensitivity should be adjustable over a range) T: Timed : Safety frequency (adjustable) ST: Spontaneous + Timed
1.7 Safety frequency – 5 / min-35/min in 1 / min – steps, modes : T and ST
1.8 Inspiration phase: 20% to 80% of respiration phase
1.9 Should have in-built oxygen blender to provide wide range of FiO_2
1.10 Should be leak compensated
1.11 Should have battery back up of minimum 30 minutes

Acessories,Spares and Consumables
2.1 Reusable oral-nasal and nasal with textured dual flap silicone cushion flap for easy fit.(autoclavable)
2.2 Removable forehead support and pad to match the angle of patient’s forehead(autoclavable)
2.3 Ball & Socket headgear attachments.
2.4 2 sets of all size autoclavable mask. (Small, Medium, Large) with each machine.

Specifications of Extra Corporeal Membrane Oxygenator System

Machine for Extra Corporeal Circulation for extended life support.
The machine should include Centrifugal pump, Cart & Bioline Coated oxygenators with minimum 14 day usage, CE certified for treating patient in need of extended and/or circulatory support in Cardiac Surgery, intensive care medicine and interventional cardiology. The system should be flexible, compact and light in weight to take care of transport as well as stationary requirement in the or/ Intensive Care Unit.

Specifications of Consol & Centrifugal Pump

RPM Speed	0-5000 RPM
Accuracy of flow display	0.1 l/mim
Flow Rate	0-9.9 l/min

Emergency Hand Crank for centrifugal pump

Specifications for Tubing set

Tip-to-Tip" Bioline coated
Priming volume incl. tubes 550 ml

Specifications of Heater Unit

Setting range for water temperature	33-39 degree Celsius
Noise Rate	approx.35 dB(A)

Specifications of Oxygenator
CE certified for minimum 14 days continuous usage
Diffusion membrane & tight hollow fibres to avoid plasma leakage and formation of micro bubbles
Tip to tip Bioline coated

Infusion Mast pole (height adjustable)

Integrated gas blender

Emergency Hand Crank for Centrifugal Pump

Uptime Guarantee 95%

Quoted equipment should carry a warranty of 2 years

Manufacturer should maintain an adequate stock of consumables and prices of the same should be quoted separately

Machine should operate on 230 V mains
Manufacturer are invited to bid who have a dedicated service set up all over India

Specifications of Transcutaneous PO2 and PC02 monitor

1. Tanscutaenous monitor for the measurement of of SP02, Tcp CO2 and Tcp O2 by non-invasive method.
2. Parameters should be measured together or separately by two separate electrode(one for adult and one for neonatal)
3. Machine should have colour display with battery backup.
4. Machine should be FDA approved.
5. Machine should be portable ready to use for ICU and sleep lab studies.
6. Instrument should be supplied with complete accessories ready for use.
7. Should have analog output port for transmission of data to PC.

SECTION-VII

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 X ray tubes, Helium for MRI, Batteries for UPS, other vacuumatic parts wherever applicable) and Turnkey Work from the date of satisfactory installation, commissioning, trial run & handing over of equipment to Hospital/Institution/Medical College.
   b) 98% up time Warranty of complete equipment with extension of Warranty period by double the downtime period on 24 (hrs) X 7 (days) X 365 (days) basis.
   c) All software updates should be provided free of cost during Warranty period.

2. After Sales Service:

   After sales service centre should be available at the city of Hospital/Institution/Medical College on 24 (hrs) X 7 (days) X 365 (days) basis. Complaints should be attended properly, maximum within 8 hrs. The service should be provided directly by Tenderer/Indian Agent. Undertaking by the Principals that the spares for the equipment shall be available for at least 10 years from the date of supply.

3. Training:

   On Site training to Doctors/ Technicians/ staff is to be provided by Principal/ Indian Agents (if they have the requisite know-how) for operation and maintenance of the equipment to the satisfaction of the consignee.

4. Annual Comprehensive Maintenance Contract (CMC) of subject equipment with Turnkey:

   a) The cost of Comprehensive Maintenance Contract (CMC) which includes preventive maintenance including testing & calibration as per technical/ service /operational manual of the manufacturer, labour and spares, after satisfactory completion of Warranty period may be quoted for next **5 years** on yearly basis for complete equipment (including X ray tubes, Helium for MRI, Batteries for UPS, other vacuumatic parts wherever applicable) and Turnkey (if any). The supplier shall visit each consignee site as recommended in the manufacturer's technical/ service /operational manual, but at least once in six months during the CMC period
   b) The cost of CMC may be quoted along with taxes applicable on the date of Tender Opening. The taxes to be paid extra, to be specifically stated. In the absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later.
   c) Cost of CMC will be added for Ranking/Evaluation purpose.
   d) The payment of CMC will be made on six monthly basis after satisfactory completion of said period, duly certified by end user on receipt of bank guarantee for 2.5 % of the cost of the equipment as per Section XV valid till 2 months after expiry of entire CMC period.
   e) There will be 98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period.

f) During CMC period, the supplier is required to visit at each consignee's site at least once in 6 months commencing from the date of the successful completion of warranty period for preventive maintenance of the goods.
g) All software updates should be provided free of cost during CMC.
h) Failure of the above [4. e) to 4. g)] by the supplier, may lead to the forfeiture of the Bank Guarantee for Annual CMC.
i) The payment of CMC will be made as stipulated in GCC Clause 21.

Turnkey Works:

The Tenderer shall examine the existing site where the equipment is to be installed to assess the site condition for Equipment placement and installation. Whether the scope of Turnkey Works is mentioned in the Technical Specifications or not, the bidder's offer should be on a "Turn Key" basis including all costs associated with the supply, installation and commissioning of the equipment.

For equipment, the major Turnkey work to be carried out 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 Hospital/Institution/Medical College. The Turnkey costs to 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.

Bidders must take into consideration in its bid, the costs to be incurred for any additional work pertaining to civil, Electrical, Plumbing, sanitary, Radiation protection as per Govt. regulation, furniture, servo stabilizers, U.P.S. etc. required for successful installation testing and commissioning of the Medical Equipment and the "All inclusive lump sum price" should include all such costs, each **Item/schedule/package** is to be considered a package in itself and suppliers to execute the order package on a "turn key basis" including all civil, electrical, air – conditioning & allied requirement for the equipment, at the site.

For X-Ray and related equipment, bidders who have Type Approval/NOC of AERB/BARC shall only be considered with documentary evidence. It shall be bidder's responsibility to get the equipment installed and commissioned as per AERB / BARC guidelines, obtain AERB/BARC approvals and install and commission equipment on "Turn Key basis". Bidders must take into consideration in its bid the costs to be incurred for any additional work viz. Electrical cabling, plugs of suitable ratings from the source, Electrical points of suitable ratings, water connection, water drainage, plumbing, air-conditioning, Radiation protection/shielding, mechanical & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the quoted "All inclusive lump sum price" should include all such costs.

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. b skilled
- c. c unskilled

Signature and seal of the Tenderer

Section – IX
Qualification Criteria

1. The tenderer must be a manufacturer or it's authorized Indian Agent. They may authorise their 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 50% of the quoted quantity of the similar equipment meeting major parameters of technical specification which is functioning satisfactorily in Government Hospitals / Private Hospitals / PSU Hospital/ UN Agencies. Tenders shall submit Performance Certificate / Installation reports & order copies in respect of the above.

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. Tenders shall submit Performance Certificate / Installation reports & order copies in respect of the above.

Note

2. The tenderer shall give an affidavit as per Section-XIX of the TE document.

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

The manufacturer/Indian Agent as Tenderer shall furnish Satisfactory Performance Certificate/Installation Reports in respect of above, duly notarized in the country of origin, along with the tender.

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. Tender shall submit audited balance sheets for the last three years. Annual Turnover statements should be certified by chartered accountant bearing their membership No.

6. 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 purchaser 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.**

Section – X
TENDER FORM

Date_____

To

Medical Superintendent & VMMC,
Safderjung Hospital,
New Delhi.

Ref. Your TE document No. _____dated _____

We, the undersigned have examined the above mentioned TE document, including amendment/corrigendum No. _____, dated _____ (*if any*), the receipt of which is hereby confirmed. We now offer to supply and deliver_____ *(Description of goods and services)* in conformity with your above referred document for the sum of _____ (total tender amount in figures and words), as shown in the price schedule(s), attached herewith and made part of this tender.

If our tender is accepted, we undertake to supply the goods and perform the services as mentioned above, in accordance with the delivery schedule specified in the List of Requirements.
We further confirm that, if our tender is accepted, we shall provide you with a performance security of required amount in an acceptable form in terms of GCC clause 5, read with modification, if any, in Section - V – "Special Conditions of Contract", for due performance of the contract.

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

We further understand that you are not bound to accept the lowest or any tender you may receive against your above-referred tender enquiry.
We confirm that we do not stand deregistered/banned/blacklisted by any Govt. Authorities.
We confirm that we fully agree to the terms and conditions specified in above mentioned TE document, including amendment/ corrigendum if any

(Signature with date)

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

SECTION – XI PRICE SCHEDULE

A) PRICE SCHEDULE FOR DOMESTIC GOODS OR GOODS OF FOREIGN ORIGIN LOCATED WITHIN INDIA

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

Total Tender price in Rupees: _____

In words: _____

Note: -

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

Name_____

Business Address_____

Place: _____ **Signature of Tenderer**_____

Date: _____ **Seal of the Tenderer**_____

SECTION – XI PRICE SCHEDULE

B) PRICE SCHEDULE FOR GOODS TO BE IMPORTED FROM ABROAD

1	2	3	4	5						6
Schedule	Brief Description of Goods	Country of Origin	Quantity (Nos.)	Price per unit (Currency)						
				FOB/FCA price at port/ airport of Lading (a)	Carriage & Insurance (port of loading to port of destination) and other Incidental costs (b)	CIP Price (name place/port of destination in India (c)	Loading & unloading at name place/port of entry in India + local transportation and storage to the consignee site + Extended Insurance for a period including 3 months beyond date of delivery** (d)	Incidental Services (including Installation & Commissioning, Supervision, Demonstration and Training) at the Consignee's site ** (e)	Unit Price on CIP Port of destination + Extended Insurance+ local transportation and storage at consignee site) (f) = c+d+e	Total price on CIP Port of destination + Extended Insurance+ local transportation and storage at consignee site) 4X 5 (f)

** 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 destination (consignee site) in good condition as per terms of DDP at Consignee's site as per INCOTERMS, if applicable*

Custom Duty @ 11.76% & Custom Clearance Charges @ 2% will be added to CIP charges to arrive at DDP Price at consignee site for evaluation purpose.

Indian Agency Commission - __% of FOB/FCA

Signature of Tenderer_____

Name_____

Business Address_____

Place: _____

Signature of Tenderer_____

Date: _____

Seal of the Tenderer_____

SECTION – XI PRICE SCHEDULE

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

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

*** After completion of Warranty period**

NOTE:-

1. In case of discrepancy between unit price and total prices, THE UNIT PRICE shall prevail.
2. The cost of Comprehensive Maintenance Contract (CMC) which includes preventive maintenance including testing & calibration as per technical/ service /operational manual, labour and spares, after satisfactory completion of Warranty period may be quoted for next 5 years on yearly basis for complete equipment and Turnkey (if any).
3. The cost of CMC may be quoted along with taxes applicable on the date of Tender Opening. The taxes to be paid extra, to be specifically stated. In the absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later.
4. Cost of CMC will be added for Ranking/Evaluation purpose.
5. The payment of CMC will be made as per clause GCC clause 21.1 (D).
6. The uptime warranty will be 98 % on 24 (hrs) X 7 (days) X 365 (days) basis or as stated in Technical Specification of the TE document.
7. All software updates should be provided free of cost during CMC period.
8. The stipulations in Technical Specification will supersede above provisions
9. The supplier shall keep sufficient stock of spares required during Annual Comprehensive Maintenance Contract period. In case the spares are required to be imported, it would be the responsibility of the supplier to import and get them custom cleared and pay all necessary duties.

Name_____
Business Address_____
Signature of Tenderer_____
Seal of the Tenderer_____

Place: _____
Date: _____

Section XI - Price Schedule for Items mentioned as – Optional or To be Quoted Separately					
HSCC/SJH/Medical Equipment/2015/5 dated 07.07.2015					
Sr no.	**Name of Part**	**Part No.**	**Qty**	**Unit price inclusive of all taxes, duties, transportation, incidental cost etc. up to Consignee Site (Rs.)**	**Total price inclusive of all taxes, duties, transportation, incidental cost etc. up to Consignee Site (Rs.)**
	S. No. & Name of Equipment –				
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
	Total				

Total Price in Rs. (In words):

Name_____
Business Address_____

Place: _____
Date: _____

Signature of Tenderer_____
Seal of the Tenderer_____

SECTION XI– PRICE SCHEDULE
D) PRICE SCHEDULE FOR TURNKEY

Schedule No.	BRIEF TURNKEY DESCRIPTION OF GOODS	CONSIGNEE	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:-

a) fails or refuses to furnish the performance security for the due performance of the contract.

or

b) fails or refuses to accept/execute the contract.

or

c) if it comes to notice that the information/documents furnished in its tender is incorrect, false, misleading or forged

We undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition(s).

This guarantee will remain in force for a period of forty-five days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

(Signature of the authorised officer of the Bank)

Name and designation of the officer

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

SECTION – XIV
MANUFACTURER'S AUTHORISATION FORM

To

Medical Superintendemnt,
Safderjung Hospital & VMMC,
New Delhi.

Dear Sirs,

Ref. Your TE document No _____, dated _____

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

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

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

Yours faithfully,

[*Signature with date, name and designation*]
for and on behalf of Messrs_____

[*Name & address of the manufacturers*]

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

SECTION – XV

BANK GUARANTEE FORM FOR PERFORMANCE SECURITY/ CMC SECURITY

To
Medical Superintendemnt & VMMC,
Safderjung Hospital,
New Delhi.

WHEREAS _____ (Name and address of the supplier) (Hereinafter called "the supplier") has undertaken, in pursuance of contract no_____ dated _____ to supply (description of goods and services) (herein after called "the contract").
AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognised by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;
AND WHEREAS we have agreed to give the supplier such a bank guarantee;

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

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

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

This guarantee shall be valid up to 30/66 months from the date of Notification of Award i.e. up to ---------- (indicate date)

.....
(Signature with date of the authorised officer of the Bank)
.....
Name and designation of the officer
.....
.....
Seal, name & address of the Bank and address of the Branch

SECTION – XVI
CONTRACT FORM - A

CONTRACT FORM FOR SUPPLY, INSTALLATION, COMMISSIONING, HANDING OVER, TRIAL RUN, TRAINING OF OPERATORS & WARRANTY OF GOODS

(Address of the Purchaser's/Consignee's
office issuing the contract)

Contract No_____ dated_____

This is in continuation to this office's Notification of Award No_____ dated _____

1. Name & address of the Supplier: _____
2. Purchaser's TE document No_____ dated_____ and subsequent Amendment No_____, dated_____ (if any), issued by the purchaser
3. Supplier's Tender No_____ dated_____ and subsequent communication(s) No_____ dated _____ (if any), exchanged between the supplier and the purchaser in connection with this tender.
4. In addition to this Contract Form, the following documents etc, which are included in the documents mentioned under paragraphs 2 and 3 above, shall also be deemed to form and be read and construed as integral part of this contract:

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

   Note: The words and expressions used in this contract shall have the same meanings as are respectively assigned to them in the conditions of contract referred to above. Further, the definitions and abbreviations incorporated under clause 1 of Section II – 'General Instructions to Tenderers' of the Purchaser's TE document shall also apply to this contract.
5. Some terms, conditions, stipulations etc. out of the above-referred documents are reproduced below for ready reference:
   (i) Brief particulars of the goods and services which shall be supplied/ provided by the supplier are as under:

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

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

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

2. Delivery schedule

(iii) Details of Performance Security

(iv) Quality Control

(a) Mode(s), stage(s) and place(s) of conducting inspections and tests.

(b) Designation and address of purchaser's inspecting officer

(v) Destination and despatch instructions

(vi) Consignee, including port consignee, if any

3. Warranty clause
4. Payment terms
5. Paying authority

_____

(Signature, name and address
of the Purchaser's/Consignee's authorised official)
For and on behalf of_____

Received and accepted this contract

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

(Seal of the supplier)
Date: _____

Place: _____

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

Annual CM Contract No._____ **dated**_____
Between

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

(Name & Address of the Supplier)

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

In continuation to the above referred contract

6. The Contract of Annual Comprehensive Maintenance is hereby concluded as under: -

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

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

b) The CMC commence from the date of expiry of all obligations under Warranty i.e. from_____ (date of expiry of Warranty) and will expire on _____ (date of expiry of CMC)

c) The cost of Annual Comprehensive Maintenance Contract (CMC) which includes preventive maintenance, labour and spares, after satisfactory completion of Warranty period may be quoted for next 5 years as contained in the above referred contract on yearly basis for complete equipment (including X ray tubes, Helium for MRI, Batteries for UPS, other vacuumatic parts, ____ & ____) and Turnkey (if any).

d) There will be 98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period.

e) During CMC period, the supplier shall visit at each consignee's site for preventive maintenance including testing and calibration as per the manufacturer's service/ technical/ operational manual. The supplier shall visit each consignee site as recommended in the manufacturer's manual, but at least once in 6 months commencing from the date of the successful completion of warranty period for preventive maintenance of the goods.

f) All software updates should be provided free of cost during CMC.

g) The bank guarantee valid till _____ [(fill the date) 2 months after expiry of entire CMC period] for an amount of Rs. _____ [(fill amount) equivalent to 2.5 % of the cost of the equipment as per contract] shall be furnished in the prescribed format given in Section XV of the TE document, along with the signed copy of Annual CMC within a period of 21 (twenty one) days of issue of Annual CMC failing which the proceeds of Performance Security shall be payable to the Purchaser/Consignee.

h) If there is any lapse in the performance of the CMC as per contract, the proceeds Annual CMC bank guarantee for an amount of Rs. _____ (equivalent to 2.5 % of the cost of the equipment as per contract) shall be payable to the Consignee.

i) **Payment terms:** The payment of Annual CMC will be made against the bills raised to the consignee by the supplier on six monthly basis after satisfactory completion of said period, duly certified by the HOD concerned. The payment will be made in Indian Rupees.

j) **Paying authority:** _____ (name of the consignee i.e. Hospital/ Institute /Medical College's authorised official)

_____

(Signature, name and address
of Hospital/Institute/Medical College's authorised official)
For and on behalf of_____

Received and accepted this contract

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

(Seal of the supplier)
Date: _____
Place: _____

SECTION – XVII
CONSIGNEE RECEIPT CERTIFICATE
(To be given by consignee's authorized representative)

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

1) Contract No. & date :_____

2) Supplier's Name :_____

3) Consignee's Name & Address with telephone No. & Fax No. : _____

4) Name of the item supplied :_____

5) Quantity Supplied :_____

6) Date of Receipt by the Consignee :_____

7) Name and designation of Authorized Representative of Consignee :_____

8) Signature of Authorized Representative of Consignee with date :_____

9) Seal of the Consignee :_____

SECTION – XVIII

Proforma of Final Acceptance Certificate by the Consignee

No_____
Date_____

To

M/s _____
_____
_____

Subject: Certificate of commissioning of equipment/plant.

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

(a) Contract No_____ dated_____

(b) Description of the equipment(s)/plants: _____

(c) Equipment(s)/ plant(s) nos.:_____

(d) Quantity: _____

(e) Bill of Loading/Air Way Bill/Railway Receipt/ Goods Consignment Note no_____ dated _____

(f) Name of the vessel/Transporters:_____
(g) Name of the Consignee:_____
(h) Date of commissioning and proving test:_____

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

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

The proving test has been done to our entire satisfaction and operators have been trained to operate the equipment(s)/plant(s).
The supplier has fulfilled its contractual obligations satisfactorily ## or
The supplier has failed to fulfil its contractual obligations with regard to the following:
He has not adhered to the time schedule specified in the contract in dispatching the documents/drawings pursuant to 'Technical Specifications'.
He has not supervised the commissioning of the equipment(s)/plant(s)in time, i.e. within the

period specified in the contract from date of intimation by the Purchaser/Consignee in respect of the installation of the equipment(s)/plant(s).
The supplier as specified in the contract has not done training of personnel.

The extent of delay for each of the activities to be performed by the supplier in terms of the contract is
The amount of recovery on account of non-supply of accessories and spares is given under Para no.02.
The amount of recovery on account of failure of the supplier to meet his contractual obligations is_____ (here indicate the amount).
Signature
Name
Designation with stamp

Explanatory notes for filling up the certificate:

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
AFFIDAVIT/UNDERTAKING

I/ We have read and understood the instructions and the terms and conditions contained in the document. I/We accordingly accept all terms and conditions of the tender enquiry document including the essential conditions specially incorporated in the tender enquiry like terms of terms of payment, liquidated damages clause, warranty clause, dispute resolution mechanism applicable law. I/ We confirm that we do not stand deregistered/banned/blacklisted by any Govt. Authorities. I/ We do hereby declare that the information furnished/ uploaded is correct to the best of my/our knowledge and belief. I/We hereby certify thatthe prices offered by us in this tender is not higher than the prices we had offered to any other Govt. of India Organisation(s)/PSU(s) during the last one year and shall provide the justification for reasonableness of our offered price whenever asked during evaluation of our submitted bid. I/ We also hereby certify that if at any time, information furnished by us is proved to be false or incorrect; I/ We are liable for any action as deemed fit by the purchaser in addition to forfeiture of the earnest money.

Date:

(Signature of the bidder)
NAME & ADDRESS OF THE BIDDER

NOTE: To be submitted on non-judicial stamp paper of Rs. 10/- duly certified by Public Notary

SECTION – XX
CHECKLIST
Name of Tenderer:
Name of Manufacturer:

Sl No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
1. a.	Have you enclosed EMD of required amount for the quoted schedules?			
b.	In case EMD is furnished in the form of Bank Guarantee, has it been furnished as per Section XIII?			
c.	In case Bank Guarantee is furnished, have you kept its validity of 165 days from Techno Commercial Tender Opening date as per clause 19 of GIT?			
2. a.	Have you enclosed duly filled Tender Form as per format in Section X?			
b.	Have you enclosed Power of Attorney in favour of the signatory?			
3.	Are you a SSI unit, if yes have you enclosed certificate of registration issued by Directorate of Industries/NSIC			
4. a.	Have you enclosed clause-by-clause technical compliance statement for the quoted goods vis-à-vis the Technical specifications?			
b.	In case of Technical deviations in the compliance statement, have you identified and marked the deviations?			

Sl No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
5. a.	Have you submitted satisfactory performance certificate/ Installation Reports as per the Proforma for performance statement in Sec. IX of TE document in respect of all orders?			
b.	Have you submitted copy of the order(s) and end user certificate/ Installation Reports?			
6.	Have you submitted manufacturer's authorization as per Section XIV?			
7.	Have you submitted prices of goods, turnkey (if any), CMC etc. in the Price Schedule as per Section XI?			
8.	Have you kept validity of 120 days from the Techno Commercial Tender Opening date as per the TE document?			
9. a.	In case of Indian Tenderer, have you furnished Income Tax Account No. as allotted by the Income Tax Department of Government of India?			
b.	In case of Foreign Tenderer, have you furnished Income Tax Account No. of your Indian Agent as allotted by the Income Tax Department of Government of India?			
10.	Have you intimated the name an full address of your Banker (s) along with your Account Number			
11.	Have you fully accepted payment terms as per TE document?			
12.	Have you fully accepted delivery period as per TE document?			

Sl No.	Activity	Yes/ No/ NA	Page No. in the TE document	Remarks
13.	Have you submitted the certificate of incorporation?			
14.	Have you accepted the warranty as per TE document?			
15.	Have you accepted terms and conditions of TE document?			
16.	Have you furnished documents establishing your eligibility & qualification criteria as per TE documents?			
17.	Have you furnished Annual Report (Balance Sheet and Profit & Loss Account) for last three years prior to the date of Tender opening duly certified by chartered accountant bearing their membership no.?			
18.	Have you enclosed the Affidavit as per Section XIX of the TE Document?			

N.B.

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

(Signature with date)

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

(Name, address and stamp of the tendering firm)

Section – XXI
Consignee List

Consignee	Medical Institutions	Contact Address.
	Medical Superintendent, Safderjung Hospital & VMMC, New Delhi	Medical Superintendent, Safderjung Hospital & VMMC, New Delhi

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