SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND TECHNOLOGY

(An Institute of National Importance under Government of India)

Medical College P.O.
Thiruvananthapuram - 695011, Kerala
Phone: 0471- 2524445 / 145 / 225 / 425
Fax: 0471-2550728
URL: www.sctimst.ac.in
Email: purchase@sctimst.ac.in

TENDER ENQUIRY DOCUMENT

FOR THE PROCUREMENT OF
MEDICAL GAS PIPELINE SYSTEM (MGPS)
FOR 170 BEDDED SWASTHYA SURAKSHA
HOSPITAL BLOCK UNDER PRADHAN
MANTHRI SWASTHYA SURAKSHA
YOJANA(PMSSY)

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SECTION -I

NOTICE INVITING BIDS (NIB)

Tender No. SCT/H/PMSSY/I/2020-21/3 **Dated 01.01.2021**

E-Tenders in **TWO BID** system are invited from Manufacturers/their accredited Agents/ Distributors for the procurement of **Medical Gas Pipeline System** for 170 bedded Swasthya Suraksha Hospital Block under Pradhan Manthri Swasthya Suraksha Yojana (PMSSY).

Sl. No.	**Brief Description System**	Quantity	**Earnest Money Deposit (EMD) (Rs.)**
I	**MEDICAL GAS PIPELINE SYSTEM**	1 No.	1500000
Pre- Bid Meeting with prospective bidders			
Venue for pre-bid meeting: Office of the Medical Superintendent, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Medical College P.O. Thiruvananthapuram – 695011, Kerala			
Last date of submission of pre-bid queries as email to **purchase@sctimst.ac.in** with a copy to **spso@sctimst.ac.in**			**11/01/2021 upto 5pm**
Date of Pre-bid meeting			
Date of pre-bid meeting			**13.01.2021 at 11.00 am**
Date of Publishing of corrigendum if any after pre-bid meeting			**20.01.2021**
Last date and time of online submission of bids			**15.02.2021 upto 5.00 pm**
Last date and time of submission of **Original EMD along with hardcopy of Techno- commercial Bid** with supporting documents **(price bid has to be submitted online only).** ***The tender will stand rejected if the price bid is submitted along with hardcopy of techno-commercial bid***			**19.02.2021 upto 1.00 pm**
Date of tender Opening			**20.02.2021 at 2.30 pm**
Contact Person : Senior Purchase & Stores Officer, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Medical College P.O., Thiruvananthapuram – 695011, Kerala. Ph: 0471-2524445/ 145 /225 / 425			

Interested bidders are advised to download the complete Tender Enquiry document from the websites www.sctimst.ac.in or www.eprocure.gov.in/cppp or www.tenderwizard.com /SCTIMST under "Tender Free View" link for complete details.
Vendors should obtain the USER ID and PASSWORD from www.tenderwizard.com/SCTIMST by clicking on "Enrolment/REGISTER ME" link in the homepage.

The vendor registration fees has to be paid to KEONICS for Rs 2000/- plus tax. Using the e payment link provided at the time of registration, and the mode of payment are Credit Card, Debit Card and internet banking. Vendor Registration is valid for ONE Year.

For further details on e-Tender participation, please contact KEONICS Help Desk on

- Telephone: 080-49352000/9746428200 - Mr. Vijay (Kerala Executive)
- Email:sridevi.m@etenderwizard.com, harishkumar.kb@etenderwizard.com, ambasa@etenderwizard.com

All bids should be accompanied by Earnest Money Deposit (EMD) as specified above. EMD should be in the form of an account payee demand draft, fixed deposit receipt, or banker's cheque in favour of Director, SCTIMST or a bank guarantee. However, in case of foreign bidder(s) bank guarantee in equivalent Foreign

Exchange amount from any of the Nationalised/scheduled bank in India should be accompanied. EMD should have a validity of 315 days beyond the date of opening of bids.

The EMD will be waived based on the relevant certificate for the tendered items on production of documents such as DGS &D, MSME, NSIC Registration Certificate etc for the specific category of item and should remain valid for the period required for EMD.

Integrity Pact Agreement will form part and parcel of this tender. It is mandatory to enclose the Integrity Pact Agreement (Appendix A) along with the techno-commercial bid.

Independent External Monitors :

Sri.Sharda Prasad, IPS (Rtd). Ph: 8800484522, email: spy1809@gmail.com

Sri.Sanjeev Behari, IRS (Rtd). Ph: 9869199464 email: saloni_behari@yahoo.co.in

All pages of Integrity Pact Agreement are to be returned by the bidder along with the bid duly signed by the same signatory who is duly authorized to sign the bid and to make binding – commitments on behalf of his company. ***Any bid not accompanied by Integrity Pact duly signed by the bidder shall be considered to be a non-responsive bid and shall be rejected straightaway.***

Hard copy submission

The hard copy of Techno-commercial bid with supporting documents, EMD (in original) and Integrity Pact - Appendix A (in original) should be submitted within the scheduled date & time.

Bidders may simulate online bid submission (technical & financial) at least one week in advance of the bid submission deadline. No clarifications/troubleshooting regarding any problems being faced during bid submission online shall be entertained in the last week of bid submission.

Corrigendum to this tender if any will be published in the websites only.

The Director of the Institute reserves the right to accept the offer by individual items and reject all or any of the tenders or in whole or part without assigning any reason thereof and does not bind itself to accept lowest quotations

Sd/-
DIRECTOR

SECTION - II

GENERAL INSTRUCTIONS TO BIDDERS (GIB)
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GENERAL INSTRUCTIONS TO BIDDERS (GIB)

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 Director, Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST) Thiruvananthapuram, Kerala.
ii. "Bid" means Quotation / Tender received from a Firm / Tenderer / Bidder.
iii. "Bidder" means Tenderer/ the Individual or Firm submitting Bids / Quotation / Tender
iv. "Supplier" means the individual or the firm supplying the goods and services as incorporated in the contract/purchase order.
v. "Goods" means all articles, material, commodity, livestock, furniture, fixtures, raw material, spares, instruments, machinery, equipment, vehicles, medicines, assemblies, sub-assemblies, accessories, intangible products like software, technology transfer, licenses, patents or other intellectual properties purchased or otherwise acquired for the use of Government but excludes books, publications, periodicals, etc. for a library. The term 'goods' also includes works and services which are incidental or consequential to the supply of such goods, such as, transportation, insurance, installation, commissioning, training and maintenance.
vi. "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.
vii. "Bid Security" (BS) means Earnest Money Deposit / monetary or financial guarantee to be furnished by a bidder along with its tender.
viii. "Contract" means the written agreement entered into between the purchaser and the supplier, together with all the documents mentioned therein and including all attachments, annexure etc. therein.
ix. "Performance Security" means monetary or financial guarantee to be furnished by the successful bidder for due performance of the contract placed on it. Performance Security is also known as Security Deposit.
x. "Consignee" means the Centre/Hospital/Department/Sections /person to whom the goods are required to be delivered as specified in the Contract.
xi. "Specification" also called Technical Specifications means the document/standard that prescribes the requirement with which goods or service has to conform.
xii. "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 mentioned in the contract to determine conformity.
xiii. "Day" means calendar day.

1.3 Abbreviations:

(i) "NIB" means Notice Inviting Bids.
(ii) "GIB" means General Instructions to Bidders
(iii) "SIT" means Special Instructions to Bidders
(iv) "GCC" means General Conditions of Contract
(v) "SCC" means Special Conditions of Contract
(vi) "LC" means Letter of Credit
(vii) "DP" means Delivery Period
(viii) "BG" means Bank Guarantee
(ix) "GST" means Goods & Service Tax
(x) "CD" means Custom Duty
(xi) "BL" means Bill of Lading

(xii) "FOB" means Free on Board
(xiii) "CIF" means Cost, Insurance and Freight
(xiv) "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.
(xv) "INCOTERMS" means International Commercial Terms as on the date of Bid Opening
(xvi) "CAMC" means Comprehensive Annual Maintenance Contract (labour, spare and preventive maintenance)
(xvii) MOH&FW Ministry of Health and Family Welfare
(xviii) SCTIMST means Sree Chitra Tirunal Institute For Medical Sciences and Technology.

2. Introduction

2.1 Sree Chitra Tirunal Institute for Medical Sciences & Technology, Thiruvananthapuram, an Institute of National Importance, established by an Act of the Indian Parliament(Act 52 of 1980). MOH&FW has authorised the Medical college institutions for decentralized procurement of equipment under the "Pradhan Mantri Swasthya Suraksha Yojana"(PMSSY)being implemented by the MOH&FW to improve tertiary Medical care and quality of Medical education in India. The MOH&FW is financially assisting the institute in procurement of medical equipment and agreed to fund part of the budget earmarked for the Institute for the desired purpose. Accordingly the construction of the 170 bedded hospital building is in progress which is expected to be tentatively completed by January'2021.

2.2 The Purchaser has issued these Bidding 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.

2.3 This section (Section II - "General Instructions to Bidders") provides the relevant information as well as instructions to assist the prospective bidders in preparation and submission of bids. It also includes the mode and procedure to be adopted by the bidder for receipt and opening as well as scrutiny and evaluation of bids and subsequent placement of contract.

2.4 The bidder shall also read the Special Instructions to Bidders (SIB) related to this purchase, as contained in Section III of these documents and follow the same accordingly. Whenever there is a conflict between the GIB and the SIB, the provisions contained in the SIB shall prevail over those in the GIB.

2.5 Before formulating the bid and submitting the same to the purchaser, the bidder should read and examine all the terms, conditions, instructions, checklist etc. contained in the Bidding Document. Failure to provide and/or comply with the required information, instructions etc. incorporated in these Bidding Documents may result in rejection of its Bid.

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 Bid

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

5. Eligible Bidders

5.1 This Invitation for Tenders is open to all bidder 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. Bid Expense

7.1 The bidder shall bear all costs and expenditure incurred and/or to be incurred by it in connection with its bid including preparation, mailing and submission of its bid 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 bidding process.

B. TENDER ENQUIRY DOCUMENTS

8. Content of Tender Enquiry Documents

8.1 In addition to Section I – "Notice Inviting e- Tender" (NIT), the Bidding Documents include:

Section II – General Instructions to Bidders (GIB)
Section III – Special Instructions to Bidders (SIB)
Section IV – General Conditions of Contract (GCC)
Section V – Special Conditions of Contract (SCC)
Section VI – List of Requirements
Section VII – Technical Specifications& General Points
Section VIII –Qualification Criteria
Section IX – Bid Form
Section X – Price Schedules
Section XI - Check List
Section XII – Bank Guarantee Form for Bid Security
Section XIII – Manufacturer's Authorization Form
Section XIV – Bank Guarantee Form for Performance Security/CAMC Security
Section XV – Contract Forms A & B
Section XVI – Proforma of Consignee Receipt Certificate
Section XVII – Proforma of Consignee Acceptance Certificate by the consignee
Appendix A– Integrity pact
Appendix B - Order No. P-45021/2/2017-PP (BE-11) dtd 28.05.2018

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

9. Amendments to Tender Enquiry Documents

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

9.2 Such an amendment will be notified through CPPP (eprocure.gov.in/cppp) and/or www.sctimst.ac.in or www.tenderwizard.com/SCTIMST be binding on them.

9.3 In order to provide reasonable time to the prospective bidders to take necessary action in preparing their bids as per the amendment, the purchaser may, at its discretion extend the deadline appropriately for the submission of bids and other allied time frames, which are linked with that deadline.

10. Clarification of Tender Enquiry Documents

10.1 A bidder requiring any clarification or elucidation on any issue of the Tender Enquiry Documents may take up the same with the purchaser in writing in their letter head duly signed and scanned through e mail

to purchase@sctimst.ac.in. The purchaser will respond to such request provided the same is received 2(Two) days prior to the Pre-bid Meeting Conference. Any queries/representations received after the pre-bid meeting will not be taken into cognizance.

C. PREPARATION OF BIDS

11. Documents comprising the e-Bid

11.1 The bid(s) shall only be submitted online as mentioned below:

1. Technical Bid (Consisting of Techno-Commercial bids in pdf / excel format provided with the tender enquiry along with the supporting documents i.e. scanned copies of Earnest Money Deposit , Eligibility Criteria & Technical Specifications viz. Product Specification Sheets/Brochures, OEM Certificate, etc.) have to be attached in the e-tendering module. Bidders have to ensure that the documents uploaded in pdf and/or excel format or as per format instructed elsewhere are legible.

2. Price Bid has to be submitted in the prescribed excel format provided with the tender enquiry.

Note:

a. The techno-commercial bid of each Schedule along with supporting documents, The Earnest Money Deposit and Integrity Pact(Appendix A) has to be submitted in physical form as per Section – I, Notice Inviting Tender of this tender enquiry. Each Schedule has to be submitted in separate sealed envelope.

b. The bidders have to follow the steps listed in Bidding Manual – Attachment Modem available in the Bidder Help Documents of e-tender portal login screen for uploading the Techno-Commercial Bid.

A) Techno-commercial Bid (Un-priced Bid)

(Bidders shall furnish the following information along with technical tender in pdf and/or excel format or as per format instructed elsewhere):

i) Earnest Money Deposit furnished in accordance with GIB clause 19.1 alternatively, documentary evidence as per GIB clause 19.2 for claiming exemption from payment of Bid Security.
ii) Bid Form as per Section IX (without indicating any price).
iii) Documentary evidence, as necessary in terms of clauses 5 and 17 of GIB establishing that the bidder is eligible to submit the bid and, also, qualified to perform the contract if its bid is accepted.
iv) Bidder who quotes for goods manufactured by other manufacturer shall furnish Manufacturer's Authorisation Form. While giving authorization to agent, to quote on their behalf, manufacturer has to give the reasons for not quoting directly against this bid in the Manufacturer's Authorisation Form.
v) Power of Attorney in favour of signatory and/or who is digitally signing the bidding documents and signatory of Manufacturer's Authorization Form.
vi) Documents and relevant details to establish in accordance with GIB clause 18 that the goods and the allied services to be supplied by the bidder conform to the requirement of the bidding documents.
vii) Performance Statement as per section VIII along with relevant copies of orders and end users' satisfaction certificate.
viii) Price Schedule(s) as per Section X filled up with all the details including Make, Model etc. of the goods offered with prices blank (without indicating any prices).
ix) Documents confirming to Sole Proprietorship/Partnership/Private Limited Firm in the country of origin as the case may be.
x) Checklist as per Section XI.
xi) Copies of GST registration certificate and PAN Card.
xii) Copies of annual report, audited balance sheet and profit & loss account as per tender requirement.

xiii) Non conviction /no pending conviction certification issued by Notary on non-judicial stamp paper for preceding three years.

xiv) Notarized affidavit that bidder does not have any relation with the person authorized to evaluate technically or involve in finalizing the tender or will decide the use of tendered items.

xv) A self-declaration on Rs. 10/- non-judicial Stamp Paper that the rates quoted in the tender are the lowest and not quoted less than this to any Government Institution (State/Central/ other Institute in India).

xvi) Technical and Commercial Compliance statement in excel format provided in the e-tender portal.

xvii) Product catalogues/original Data Sheets for all quoted items.

xviii) Copies of quality certificates, if applicable, namely, BIS, ISO, FDA, CE, etc.

xix) The Integrity pact (At Appendix-A) shall be a part and parcel of this document and has to be signed by bidder(s) at the pre-tendering stage itself, as a pre-bid obligation and should be submitted along with the Techno-Commercial Bids. All bidders are bound to comply with the integrity pact clauses. Bids submitted without signing the integrity pact will be *ab initio* rejected without assigning any reason.

xx) Compliance statement should be provided which should invariably indicate documentary evidence in terms of catalogue, literature, data sheet or any other documents by which the claim is confirmed. compliance statement in the form of "complied" or "not complied" shall be given against each item and specification as per below format.

Sl. No.	SCTIMST Specification	Your Brand Name, Model /Cat. No	State "COMPLIED"/ "NOT COMPLIED"	Page No.

B) Price Tender:

Prices are to be quoted in the prescribed Price Bid format in excel provided along with the tender enquiry in the e-tender portal. The price should be quoted for the accounting unit indicated in the e-tender document.

Note:

a) The bidder has to be diligent while filling up the Techno-commercial Bid and Price Bid provided in excel formats and must not tamper the contents of the sheets.

b) It is the responsibility of bidder to go through the TE document to ensure furnishing all required documents in addition to above, if any.

c) The bidders have to follow the steps in the tender enquiry document / e-tender portal.

d) The Price is to be quoted for all the line items strictly as per the given price-bid format on the e-tender portal, failing which the bid shall be straight away rejected.

11.2 The authorized signatory of the bidder must sign the bid duly stamped at appropriate places and initial all the remaining pages of the bid. Individuals signing the bid or other documents connected with a contract must specify whether he signs as:

i. A 'Sole Proprietor' of the firm or constituted attorney of such Sole Proprietor.
ii. In case of partnership firm he must have authority to quote & to refer to arbitration dispute concerning the business of the partnership either by virtue of the partnership agreement or a power of attorney;
iii. Constituted attorney of the firm if it is a company.

Note:

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

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

12. Bid Currencies

12.1 The bidder 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 after satisfactory supply, installation and acceptance of the goods. The rate of conversion shall be taken as on the date of placement of purchase order.

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

13 Bid Prices

13.1 The Bidder shall indicate on the Price Schedule provided in the e-tender portal all the specified components of prices shown therein including the unit prices, applicable taxes and total bid 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 bidder, same should be clarified as "NA" by the bidder.

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

13.3 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 given in the e-tender portal.

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 packing charges and GST and Custom Duty 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 taxes and duty, which will be payable on the goods in India if the contract is awarded;

c) Charges towards 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 (including installation & commissioning, supervision, demonstration and training), at the consignee site as mentioned in List of Requirements, Technical Specification and Price Schedule;
e) The prices of Turnkey Work (if any), as mentioned in Technical Specification and Price Schedule; and
f) The price of CAMC, 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 on FOB at port/ FCA at airport of shipment, as mentioned in List of Requirements, Technical Specification and Price Schedule
b) The amount of Freight and Insurance (port of loading to port of entry) and other incidental costs.
c) The price of Incidental Services (including Installation & Commissioning, Supervision, Demonstration and Training) at the Consignee's site as mentioned in List of Requirements, Technical Specification and Price Schedule.
d) The price of Extended Insurance (local transportation and storage) from port of entry to the consignee site for a period including 3 months beyond date of delivery.
e) The Unit Price on CIP Name port of Destination + Extended Insurance (local transportation and storage)
f) The price of total Price on CIP Named port of Destination +Insurance (local transportation on and storage)
g) The prices of Turnkey Work (if any), as mentioned in List of Requirements, Technical Specification and Price Schedule; and
h) The price of CAMC, as mentioned in List of Requirements, Technical Specification and Price Schedule.

13.5 Additional information and instruction on Taxes and Duties:

13.5.1**GST (Goods & Services Tax)**

If the bidder desires to ask for GST (goods and services tax) to be paid extra, the same must be specifically stated. In the absence of any such stipulation, the price will be taken inclusive of GST and no claim for the same will be entertained later.

13.5.2 **Customs Duty**

The Purchaser will pay the Customs duty wherever applicable.

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

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

13.8 Unless otherwise specifically indicated in this Bidding Document, the terms FCA, FOB, CIF, CIP etc. for imported goods offered from abroad, shall be governed by the rules & regulations prescribed in the current edition of INCOTERMS - 2010, published by the International Chamber of Commerce, Paris

13.9 The need for indication of all such price components by the bidders, as required in this clause (viz., GIB clause 13) is for the purpose of comparison of the bids by the purchaser and will no way restrict the purchaser's right to award the contract on the selected bidder on any of the terms offered.

14. Indian Agent

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

a) The complete name and address of the Indian Agent.
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 CAMC period.

15. Firm Price

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

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

16. Alternative Models

16.1 Alternative Models are permitted. The Bidder can quote alternate models meeting the specifications of the bidding document of same manufacturer with single Bid Security.

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

16.3 One Principal/OEM cannot authorize two agents simultaneously for the same item against same ATE.

17 Documents Establishing Bidder's Eligibility and Qualifications

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

17.2 The documentary evidence needed to establish the bidder's qualifications shall fulfill the following requirements:

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

18.1 The bidder shall provide in its bid the required as well as the relevant documents like technical data, literature, drawings etc. to establish that the goods and services offered in the bid fully conform to the goods and services specified by the purchaser in the Bidding Documents. For this purpose the bidder shall also provide a clause-by-clause commentary on the technical specifications and other technical details incorporated by the purchaser in the Bidding Documents to establish technical responsiveness of the goods and services offered in its bid.

18.2 In case there is any variation and/or deviation between the goods & services prescribed by the purchaser and that offered by the bidder, the bidder shall list out the same in a chart form without ambiguity and provide the same along with its bid.

18.3 If a bidder furnishes wrong and/or misguiding data, statement(s) etc. about technical acceptability of the goods and services offered by it, its bid 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 GIB clauses 8.1 and 11.1 A (i) the bidder shall furnish along with its bid, Earnest Money Deposit for amount as shown in the Notice Inviting Bids (NIB). The Earnest Money Deposit is required to protect the purchaser against the risk of the bidder's unwarranted conduct as amplified under sub-clause 19.7 below.

19.2 The bidders who are currently registered with MSME for the specific goods as per bidding document specification shall be eligible for exemption from Earnest Money Deposit as defined in MSE Procurement Policy issued by the department of MSME. In case the bidder falls in this category, the bidder shall enclose relevant certificate of registration issued by department of MSME.

19.3 The Earnest Money Deposit shall be denominated in Indian Rupees or equivalent currencies as per GIB clause 12.2. The Earnest Money Deposit shall be furnished in one of the following forms:

i) Account Payee Demand Draft/ Banker's cheque
ii) Fixed Deposit Receipt
iii) Bank Guarantee

19.4 The demand draft or banker's cheque shall be drawn on any Nationalised/scheduled bank in India or country of the bidder, in favour of the " The Director, Sree Chitra Tirunal Institute For Medical Sciences and Technology"(as indicated in the NIB) payable at Thiruvananthapuram. In case of Bank Guarantee, the same is to be provided from any Nationalised / Scheduled Bank in India or country of the bidder as per the format specified under Section XII in these documents.

19.5 The Earnest Money Deposit shall be valid for a period of forty-five (45) days beyond the validity period of the bid. As validity period of Bid as per Clause 20 of GIB is 270 days, the Earnest Money Deposit shall be valid for 315 days from Techno-Commercial Bid opening date.

19.6 The Earnest Money Deposit of unsuccessful bidders will be returned without any interest, after expiry of the bid validity period, but not later than thirty days after conclusion of the resultant contract. The Earnest Money Deposit of successful bidder will be returned without any interest, after receipt of performance security from that bidder.

19.7 Earnest Money Deposit is required to protect the purchaser's right against the risk of the Bidder's conduct, which would warrant the forfeiture of the Earnest Money Deposit . Earnest Money Deposit of a bidder will be forfeited, if the bidder withdraws or amends its bids or impairs or derogates from the bid in any respect within the period of validity of its bid or if it comes to the notice that the information/documents furnished in its bid is incorrect, false, misleading or forged without prejudice to other rights of the purchaser. The Earnest Money Deposit of the successful bidder 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 nationalized bank in India by way of back-to-back counter guarantee and the same should be submitted along with the bid.

19.9 SCTIMST Bank details for necessary issuance of 'Structured Financial Messaging System (SFMS)' in case the Bid Security (i.e. EMD) is submitted in the form of Bank Guarantee:

Name of the Beneficiary	Bank Details	IFSC Code
Director, SCTIMST	State Bank of India, Medical College Branch, Thiruvananthapuram - 11	SBIN0070029

20. Bid Validity

20.1 If not mentioned otherwise in the SIB, the bid shall remain valid for acceptance for a period of 270 days (Two hundred and Seventy days) after the date of bid opening prescribed in the Bidding Document. ***Any bid valid for a shorter period shall be treated as unresponsive and rejected.***

20.2 In exceptional cases, the bidder may be requested by the purchaser to extend the validity of their bids up to a specified period. Such request(s) and responses thereto shall be conveyed by mail/fax/email. The bidders, who agree to extend the bid validity, are to extend the same without any change or modification of their original bid and they are also to extend the validity period of the Earnest Money Deposit accordingly. A bidder, who may not agree to extend its bid validity after the expiry of the original validity period, their bid will not be considered further and the Earnest Money Deposit furnished by them shall be returned.

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

21. Digital Signing of e-Bid

21.1 The bidders shall submit their bids online as per the instructions contained in GIB Clause 11 and any other specific instruction mentioned in the e-Tender portal using the digital signature.

Instruction on submission of Bids

i) All the documents pertaining to the Tender No. may be downloaded from the e-portal by clicking on the specific tender.

ii) All the necessary documents as prescribed in the NIB shall be prepared and scanned in different files (in PDF and/or Excel format or as per format instructed elsewhere) and uploaded for on-line submission of Proposal.

iii) The scanned copies of Earnest Money Deposit Integrity pact and all document(s)/ information(s) including the Financial Proposal should be uploaded **online only** in the prescribed format given in the designated e-tendering portal website. No other mode of submission shall be acceptable.

However, **Earnest Money Deposit and Integrity pact** related to all quoted items must be submitted in original at the desired venue before the last date and time of physical submission as mentioned in the NIB.

iv) 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.

v) The Individual file size of uploading is restricted up to 5 MB. Bidders may upload multiple files (Not exceeding 5 MB individually) & give relevant file name indicating the contents.

vi) The file name of price bid should not be different from the price bid format uploaded by the Bid inviting Authority in the e-portal. .

Bidders may simulate online bid submission (technical & financial) at least one week in advance of the bid submission deadline. No clarifications/troubleshooting regarding any problems being faced during bid submission online shall be entertained in the last week of bid submission.

D. SUBMISSION OF BIDS

22. Submission of Bids:

22.1 The hard copy of the Techno-commercial Bid as specified in the tender document along with the original EMD, Integrity Pact (Appendix A) should be addressed to the Director , SCTIMST, Medical College P O, Thiruvananthapuram - 695011, Kerala in the sealed envelop superscribed as " Techno-commercial bid", "Tender No.", "Schedule No", "Item Name" and "Due date". The sentence " NOT TO BE OPENED" before (due date and time of tender opening) is also to be printed on this envelope. The hard copy can be sent by post / courier or dropped in the tender box located at AMCHSS, SCTIMST, Medical College Campus, Thiruvananthapuram or the same shall be submitted by the bidder by hand to Inward Section, 4th Floor, AMCHSS, SCTIMST, Thiruvananthapuram.

22.2 The bidders must ensure that they submit the on-line bids within the scheduled closing date & time. They shall also ensure to submit the original Bid Security and Integrity pact and hardcopy of techno-commercial bid within its scheduled date & time. It is the responsibility of the bidder to ensure that their Bids whether sent by post or by courier or by person, are dropped in the Tender Box / Inward section by the specified clearing date and time. In the event of the specified date for submission of bid falls on / is subsequently declared a holiday or closed day for the purchaser, the bids will be received up to the appointed time on the next working day.

23. Late Bid:

23.1 A bid, which is received after the specified date and time for receipt of bids will be treated as “late bid” and will be ignored.

24. Alteration and Withdrawal of Bid

24.1 The bidder, after submitting its bid, is permitted to alter/modify its bid, within the deadline for submission of bids. Alterations/modifications to bids received after the prescribed deadline will not be considered.

24.2 No bid should be withdrawn after the deadline for submission of bid and before expiry of the bid validity period. If a bidder withdraws the bid during this period, it will result in forfeiture of the Bid Security furnished by the bidder in its bid.

E. BID OPENING

25. Opening of Bids:

25.1 The purchaser will open the bids at the specified date and time and at the specified place as indicated in the NIB.

In case the specified date of bid opening falls on / is subsequently declared a holiday or closed day for the purchaser, the bids will be opened at the appointed time and place on the next working day.

25.2 Authorized representatives of the bidder, who have submitted bids on time may attend the bid opening provided they bring with them letter of authority from their bidder. The bid opening official(s) will prepare a list of the representatives attending the bid opening. The list will contain the representatives’ names & signatures and corresponding bidder’s names and addresses.

25.3 Two Bid System as mentioned in Para 21.6 above will be as follows. The “Techno - Commercial Bids” are to be opened in the first instance, at the prescribed time and date as indicated in NIB. These Bids shall be scrutinized and evaluated by the competent committee/authority with reference to parameters prescribed in the Bidding Document. During the Techno-Commercial Bid opening, the bid opening official(s) will read the salient features of the bids like brief description of the goods offered, Bid Security and any other special features of the bids, as deemed fit by the bid opening official(s). Thereafter, in the

second stage, the Price Bids 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 Bid. The prices, special discount if any of the goods offered etc., as deemed fit by bid opening official(s) will be read out.

F. SCRUTINY AND EVALUATION OF BIDS

26. Basic Principle

26.1 Bids will be evaluated on the basis of the terms & conditions already incorporated in the Bidding Document, based on which bids have been received and the terms, conditions etc. mentioned by the bidders in their bids. No new condition will be brought in while scrutinizing and evaluating the bids.

27. Scrutiny of Bids

27.1 The Purchaser will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required Bid Securities have been furnished, whether the documents have been properly signed stamped and whether the Bids are generally in order.

27.2 The Purchaser's determination of a Bid's responsiveness is to be based on the contents of the Bid itself without recourse to extrinsic evidence.

27.3 The Bids will be scrutinized to determine whether they are complete and meet the essential and important requirements, conditions etc. as prescribed in the Bidding Documents. The bids, which do not meet the basic requirements, are liable to be treated as non-responsive and will be rejected.

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

(i) Bid form as per Section IX (signed & stamped) not enclosed.
(ii) Bid is unsigned.
(iii) Bid validity is shorter than the required period.
(iv) Required Bid Security (Amount, validity etc.)/ Exemption documents have not been provided.
(v) Bidder has quoted for goods manufactured by other manufacturer(s) without the required Manufacturer's Authorization Form as per Section XIII.
(vi) Bidder has not agreed to give the required Performance Security of required amount in an acceptable form in terms of GCC clause 5, read with modification, if any, in Section - V – "Special Conditions of Contract", for due performance of the contract.
(vii) Bidder has not agreed to other essential condition(s) specially incorporated in the bidding document like terms of payment, liquidated damages clause, warranty clause, dispute resolution mechanism, and applicable law.
(viii) Poor/unsatisfactory past performance.
(ix) Bidders who stand de-registered/banned/blacklisted by any Central Govt. Ministries/Departments/Hospitals/Institutes.
(x) Bidder is not eligible as per Clauses 5, 6 & 17 of GIB.
(xi) Bidder has not quoted for the entire quantity as specified in the List of Requirements in the quoted schedule.
(xii) Bidder has not agreed for the delivery terms and delivery schedule.

(xiii) The Integrity pact (At Appendix-A) shall be a part and parcel of this document and has to be signed by bidder(s) at the pre-tendering stage itself, as a pre-bid obligation and should be submitted along with the Techno-Commercial Bids. All bidders are bound to comply with the integrity pact clauses. Bids submitted without signing the integrity pact will be *ab initio* rejected without assigning any reason.

28. Minor Informality/Irregularity/Non-Conformity

28.1 If during the evaluation, the purchaser find any minor informality and/or irregularity and/or non-conformity in a bid, the purchaser will convey its observation on such 'minor' issues, which has not price

implication, to the bidders by registered/speed post/ e-mail/fax etc. asking the bidder to respond by a specified date. If the bidder does not reply by the specified date or gives evasive reply without clarifying the point at issue in clear terms, that bid will be liable to be ignored.

29 Discrepancies in Prices

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

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

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

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

30. Qualification Criteria

30.1 Bids of the bidder, who do not meet the required Qualification Criteria prescribed in Section VIII, will be treated as non-responsive and will not be considered further.

30.2 The Purchaser reserves the right to ask for a free demonstration of the quoted equipment after giving reasonable time to the bidder at a pre-determined place acceptable to the purchaser or at site (in case of non-portable and heavy equipment) for technical acceptability as per the bidding document specifications, before the opening of the Price Bid.

30.3 The Purchaser reserves the right to relax the Norms on Prior Experience for Start-ups and Micro & Small Enterprises in Public Procurement. The Start-ups are defined in Annexure-A of the "Action Plan for Start-ups in India". The same is available on the website of Department of Industrial policy and Promotion (DIPP), Ministry of Commerce & Industry.

Note:- Definition of Start up (only for the purpose of Government schemes)
(Ref: Ministry of Finance Office Memorandum No. F.20/2/2014-PPD(Pt.) dated 25th July 2016.)
Start-up means an entity, incorporated or registered in India not prior to five years, with annual Turnover not exceeding INR 25 crore in any preceding financial year, working towards innovation, development, deployment or commercialization of new products, processes or services driven by technology or intellectual property. Provided that such entity is not formed by splitting up, or reconstruction, of a business already in existence.
Provided also that an entity shall cease to be a Start-up if its turnover for the previous financial years has exceeded INR 25 crore or it has completed 5 years from the date of incorporation/registration. Provided further that a Start-up shall be eligible for tax benefits only after it has obtained certification from the Inter-Ministerial Board, setup for such purpose.

31. Conversion of Bid currencies to Indian Rupees

31.1 In case the Bidding Documents permits the bidder to quote their prices in different currencies, all such quoted prices of the responsive bidder 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 'Techno-commercial bid' opening.

32. Schedule-wise Evaluation

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

33. Comparison of Bids

33.1. Unless mentioned otherwise in Section – III – Special Instructions to bidder and Section – VI – List of Requirements, the comparison of the responsive Bids shall be carried out on Free Delivery at consignee site basis. The quoted Turnkey Work prices and CAMC prices will also be added for comparison/ranking purpose for evaluation. "Net Present Value (NPV) of the Comprehensive Annual Maintenance Contract Charges (CAMC) quoted for 5 years after the warranty period shall be added to the bid price for evaluation and will be calculated after discounting the quoted price by a discounting factor of 10% per annum." However the payment of CAMC shall be made to the successful bidder at approved rates.

33.2 Unit Prices for all optional items/accessories/services (if any) asked in the tender specifications must be quoted separately by all the bidders in their price bid. Such unit prices after multiplying by the required quantity shall be added and taken into consideration for comparison and ranking of bids.

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

34.1 Further to GIB Clause 33 above, the purchaser's evaluation of a bid 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, GST which will be contractually payable (to the bidder), on the goods if a contract is awarded on the bidder; and

ii) in the case of goods of foreign origin offered from abroad, customs duty and GST which will be contractually payable (to the bidder) on the goods if the contract is awarded on the bidder.

iii) The items under this tender enquiry are intended to be specifically delivered and installed for use at Sree Chitra Tirunal Institute For Medical Sciences and Technology, Medical College, Thiruvananthapuram-695011. Accordingly, custom duty, cess, IGST, payable at the time of Import in the name of the Institute shall be applicable as per Custom Notification No. 51/96-Cus dated 23.07.1996 and its subsequent amendments, if any. Similarly, CGST/SGST payable at the time of supplies in the name of the Institute from Indian suppliers shall be applicable as per notification no. 47/2017-Integrated Tax (Rate) dated 14.11.2017 issued by Department of Revenue, Ministry of Finance, GOI. The ranking of bids shall also be made by taking into such rates of taxes & duties for those items as mentioned in the said notifications.

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

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

i.In exercise of powers conferred in Section 11 of the Micro, Small and Medium Enterprises Development (MSMED) Act 2006, the Government has notified a new Public Procurement Policy for Micro & Small Enterprises effective from 1st April 2012. The policy mandates that 25% 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 25% quantity.

ii. In accordance with the above said notification, the participating Micro and Small Enterprises (MSEs) in a tender, quoting price within the band of L 1+15% would also be allowed to supply a portion of the requirement by bringing down their price to the L 1 price, in a situation where L 1 price is from someone other than an MSE. Such MSEs would be allowed to supply up to 25% of the total tendered value. In case there are more than one such eligible MSE, the 25% supply will be shared equally. Out of 25% of the quantity earmarked for supply from MSEs, 4% quantity is earmarked for procurement from MSEs owned by SC/ST entrepreneurs. However, in the event of failure of such MSEs to participate in the tender process or meet the tender requirements and the L 1 price, the 4% quantity earmarked for MSEs owned by SC/ST entrepreneurs will be met from other participating MSEs.

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

iv. Special provision for Micro and Small Enterprise owned by women. Out of the total annual procurement from Micro and Small Enterprises, 3% from within the 25% target shall be earmarked for procurement from Micro and Small Enterprise owned by women.

Note: "If the bidder is a MSME, it shall declare in the bid document the UdyogAadhar Memorandum Number issued to it under the MSMED Act, 2006. If a MSME bidder do not furnish the UAM Number along with bid documents, such MSME unit will not be eligible for the benefits available under Public Procurement Policy for MSEs Order 2012."

Preference to Make in India: As per the order issued by Department of Industrial Policy and Promotion (DIPP) vide No. P-45021/2/2017-PP(BE-II) dated 28.05.2018 and the subsequent orders thereof; the purchaser reserves the right to give preference to the local supplier. A copy of this order is enclosed at Appendix-( ) which will form a part of this Tender Enquiry Document (TED) for evaluation and ranking of bids.

34.4 The comparison of bids will be based on GIB Clause 33, 34 and if any, as specified in the Technical specification(s). However, at the time of award of contract, the value of award (bid value/contract value) shall be limited to the upfront charges payable by the exchequer for Supply, Installation, Testing & Commissioning value only on DDP basis which is inclusive of warranty (for number of years specified at section VI; List of Requirement, Part I) and any other item(s)/services detailed for upfront purchase in the technical specifications. The cost of any other parameters like CAMC price beyond the warranty period, cost of any Consumables, any other recurring expenditure, etc. which have been considered for ranking of bids or for freezing of rates shall not be part of tender/award/bid/contract value.

35. Bidder's capability to perform the contract

35.1 The purchaser, through the above process of bid scrutiny and bid evaluation will determine to its satisfaction whether the bidder, whose bid has been determined as the lowest evaluated responsive bid 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.

35.2 The above-mentioned determination will, interalia, take into account the bidder satisfying all the requirements of the purchaser as incorporated in the Bidding Document. Such determination will be based upon scrutiny and examination of all relevant data and details submitted by the bidder in its bid as well as such other allied information as deemed appropriate by the purchaser.

36. Contacting the Purchaser

36.1 From the time of submission of bid to the time of awarding the contract, if a bidder needs to contact the purchaser for any reason relating to NIB/Bidding Document and / or its bid, it should do so only in writing.

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

G. AWARD OF CONTRACT

37. Purchaser's Right to accept any bid and to reject any or all bids.

37.1 The purchaser reserves the right to accept in part or in full any bid or reject any or more bid(s) without assigning any reason or to cancel the bidding process and reject all bids at any time prior to award of contract, without incurring any liability, whatsoever to the affected bidder(s).

38. Award Criteria

38.1 Subject to GIB clause 37 above, the contract will be awarded to the lowest evaluated responsive bidder decided by the purchaser in terms of GIB Clause 35.

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

39.1 At the time of awarding the contract, the purchaser reserves the right to increase or decrease, the quantity of goods and services mentioned in the schedule (s) in the "List of Requirements" (rounded off to next whole number) without any change in the unit price and other terms & conditions quoted by the bidder. Purchase Order shall be released for the quantity of goods or delivery may be staggered based on the availability of fund and readiness of site.

39.2 If the quantity has not been increased at the time of the awarding the contract, the purchaser reserves the right to increase the quantity of goods and services mentioned in the contract (rounded off 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.

40. Purchase Order

40.1 Before expiry of the bid validity period, the purchaser will notify the successful bidder(s) in writing, by registered / speed post or by fax/email (to be confirmed by registered / speed post) that its bid 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 bidder must furnish to the purchaser the required Performance Security within thirty days from the date of dispatch of Purchase Order, failing which the Bid Security will be forfeited and the award will be cancelled. Relevant details about the Performance Security have been provided in clause 5 of GCC under Section IV.

40.2 The Purchase Order shall constitute the conclusion of the Contract.

41. Issue of Contract

41.1 Promptly after issue of Purchase Order, the Purchaser will mail the contract form (as per Section XV) to the successful bidder by e-mail.

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

42. Non-receipt of Performance Security and Contract by the Purchaser

42.1 Failure of the successful bidder in providing Performance Security and/or returning contract copy duly signed in terms of GIB clauses 40 and 41 above shall make the bidder liable for forfeiture of its Bid Security and, also, for further actions by the Purchaser it as per the clause 24-Termination of default of GCC under Section IV.

43. Return of Bid Security

43.1 The Bid Security of the successful bidder and the unsuccessful bidder will be returned to them without any interest, whatsoever, in terms of Clause 19 of GIB.

44. Publication of Bid Result

44.1 The name and address of the successful bidder (s) receiving the contract(s) will be mentioned in the Website of SCTIMST.

H. CORRUPT OR FRADULENT PRACTICES

45. Corrupt or Fraudulent Practices

45.1 It is required by all concerned namely the Bidder/Suppliers/Purchaser/Consignee/End User 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 anything 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 bidders (prior to or after Bid submission) designed to establish Bid 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 Bidder 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 BIDDERS (SIB)

The following Special Instructions to Bidders will apply for this purchase. These special instructions will modify/substitute/supplement the corresponding General Instructions to Bidders (GIB) incorporated in Section II. The corresponding GIB clause numbers have also been indicated in the text below:
In case of any conflict between the provision in the GIB and that in the SIB, the provision contained in the SIB shall prevail.

Sl. No.	GIB Clause No.	Topic	SIB Provision	Ref. Page No.
Nil	**Nil**	**Nil**	**Nil**	**Nil**

SECTION - IV

GENERAL CONDITIONS OF CONTRACT (GCC)
TABLE OF CLAUSES

1. Application

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

2. Use of contract documents and information

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

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

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

3. Patent Rights

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

4. Country of Origin

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

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

4.3 The country of origin should be specified in the Price Schedule.

5. Performance Security

5.1 Within Thirty (30) days from date of the issue of notification of award by the Purchaser, the supplier, shall furnish Performance Security to the Purchaser for an amount equal to ten percent (10%) of the total value of the contract, valid up to ninety (90) days after the date of completion of all contractual obligations by the supplier, including the warranty obligations.

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

It shall be in any one of the forms namely Account Payee Demand Draft or Fixed Deposit Receipt drawn from any Nationalised / Scheduled Bank in India or Bank Guarantee issued by a Nationalised / Scheduled Bank in India, in the prescribed form as provided in Section XIV of this document in favour of 'Director,

SCTIMST'. The validity of the Fixed Deposit Receipt or Bank Guarantee will be for a period up to ninety (90) days beyond Warranty Period.

5.3 In the event of any failure/default of the supplier with or without any quantifiable loss to the government including furnishing of Bank Guarantee for CAMC security as per Performa in Section XIV, the amount of the performance security is liable to be forfeited. The needful will be done to cover any failure/default of the supplier with or without any quantifiable loss to the Government.

5.4 In the event of any amendment issued to the contract, the supplier shall, within fifteen (15) days of issue of the amendment, furnish the corresponding amendment to the Performance Security (as necessary), rendering the same valid in all respects in terms of the contract, as amended.

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

5.6 Subject to GCC sub – clause 5.3 above, the Purchaser 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 bank guarantee for CAMC security in favour of Director, SCTIMST as per the format in Section XIV.

6. Technical Specifications and Standards

6.1 The Goods & Services to be provided by the supplier under this contract shall conform 'Technical Specification' under Sections VII of this document.

7. Packing and Marking

7.1 The packing for the goods to be provided by the supplier should be strong and durable enough to withstand, without limitation, the entire journey during transit including transhipment (if any), rough handling, open storage etc. without any damage, deterioration etc. As and if necessary, the size, weights and volumes of the packing cases shall also take into consideration, the remoteness of the final destination of the goods and availability or otherwise of transport and handling facilities at all points during transit up to final destination as per the contract.

7.2 The quality of packing, the manner of marking within & outside the packages and provision of accompanying documentation shall strictly comply with the requirements as provided in Technical Specifications under Section VII 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 under Section VII and in SCC under Section V, the supplier shall mark each package on three sides with the following with indelible paint of proper quality:

a. Contract number and date
b. Brief description of goods including quantity
c. Packing list reference number
d. Country of origin of goods
e. Consignee's name and full address and
f. Supplier's name and address

8. Inspection, Testing and Quality Control

8.1 The purchaser and/or its nominated representative(s) will, without any extra cost to the purchaser, inspect and/or test the ordered goods and the related services to confirm their conformity to the contract specifications and other quality control details incorporated in the contract. The purchaser shall inform

the supplier in advance, in writing, the purchaser's programme for such inspection and, also the identity of the officials to be deputed for this purpose. "The cost towards the transportation, boarding and lodging will be borne by the purchaser and/or its nominated representative(s) for the first visit. In case the goods are rejected in the first instance and the supplier requests for re-inspection, and if same is accepted by Purchaser/Consignee, all subsequent inspections shall be at the cost of the supplier. The expense will be to and fro Economy Airfare, Local Conveyance, Boarding and Lodging of the inspection team for the inspection period."

8.2 The Technical Specification 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 re-submit the same to the purchaser's inspector for conducting the inspections and tests again.

8.4 In case the contract stipulates pre-dispatch 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 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-dispatch inspection mentioned above.

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

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

8.8 Principal/ Foreign supplier shall also have the equipment inspected by recognized/ reputed agency like SGS, Lloyd, Bereau Veritas, TUV etc. prior to dispatch at the supplier's cost and furnish necessary certificate from the said agency in support of their claim.

9. Terms of Delivery

9.1 Goods shall be delivered by the supplier in accordance with the terms of delivery and as per the delivery period specified in the schedule of requirement. Please note that the time shall be the essence of the contract.

10. Transportation of Goods

10.1 Instructions for transportation of imported goods offered from abroad:

The supplier shall not arrange part-shipments 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.

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 Free Delivery at Consignee's 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 warehouse to warehouse (consignee site) on all risk basis. The insurance cover shall be obtained by the Supplier and should be valid till 3 months after the receipt of goods by the Consignee.

ii) In case of supply of 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 warehouse to ware house (consignee site) on all risk basis.

If the equipment is not commissioned and handed over to the consignee within 3 months, the insurance will have to be extended by the supplier at their cost till the successful installation, testing, commissioning and handing over of the goods to the consignee. In case the delay in the installation and commissioning is due to handing over of the site to the supplier by the consignee/End User, such extensions of the insurance will still be done by the supplier, but the insurance extension charges at actual 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/End User 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/End User 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/End User, free of cost, the designs, drawings, layouts and specifications of the spare parts, as and if requested by the Purchaser/End User.

c) List of spare parts and their prices to be mentioned in the Price Schedule. 12.2 Supplier shall carry sufficient inventories to assure ex-stock supply of consumables and spares for the goods so that the same are used during warranty and CAMC period.

13. Incidental services

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

i) The supplier should arrange unpacking and shifting the items to the installation site. Installation & Commissioning, Supervision, Demonstration, Trial run etc. of the goods.
ii) Turnkey work (if any).
iii) Training of Consignee's/End Users Doctors, Staff, operators etc. for operating and maintaining the goods. Two additional end user training per year during the warranty period.
iv) Supplying required number of Operation, Maintenance & Service manual for the goods.

Suppler will be totally responsible for the installation and commissioning of the equipment supplied and will be responsible for dismantling, labeling and erection at the location as per requirement of the purchaser. The supplier must submit pre installation work plan to the hospital at least FOUR weeks prior to commencement of the work

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

The supplier shall send all the relevant dispatch documents well in time to enable the purchaser 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:

Within 24 hours of dispatch, the supplier shall notify the concerned Officer in SCTIMST , ring Agent of SCTIMST , the complete details of dispatch and also supply following documents by air mail/ courier etc. with intimation by e-mail: purchase@sctimst.ac.in with a copy to spso@sctimst.ac.in

a) Commercial Supplier's Invoice giving full details of the goods including quantity, value, etc.;
b) Packing list;
c) Certificate of country of origin;
d) Bill of Lading/Airway Bill;
e) Insurance Certificate; (if applicable)
f) Manufacturer's guarantee and Inspection certificate; (if applicable)
g) Inspection certificate issued by the Purchaser's Inspector; (if applicable)
h) Inspection certificate by SGS/Lloyd/Bureau Veritas/TUV etc
i) Any other document(s) as and if required in terms of the contract.

15. Warranty and CAMC

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 include all spares, accessories, labour and preventive maintenance and unlimited breakdown calls from the date of completion of the satisfactory installation and acceptance till warranty period.

15.3 The Comprehensive Annual Maintenance Contract shall include all spares, labour and preventive maintenance and unlimited breakdown calls from the date of completion of the satisfactory warranty period and till the end of life of the equipment.

15.4 Warranty as well as Comprehensive Annual Maintenance Contract will be inclusive of all accessories and turnkey work and it will also cover the following, wherever applicable:-

- All kinds of Motors.
- Plastic & Glass Parts against any manufacturing defects.

- All kinds of sensors.
- All kinds of coils, probes and transducers.
- Computers, Monitors, Printers and imagers including laser and thermal printers with all parts.
- UPS including the replacement of batteries.
- Air-conditioners
- Fit out work carried out by the supplier
- Third Party items.

15.5 In case of any claim arising out of this warranty and CAMC period 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 unless revised in SCC in Section V of Bidding Document.

15.6 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 conditions laid down in the Bidding Document.

15.7 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 upto the completion of the original warranty period of the main equipment.

15.8 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.

15.9 During Warranty and CAMC period, the supplier is required to visit at consignee's site at least once in 3 months commencing from the date of the installation for preventive maintenance of the goods.

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

15.11 The supplier along with its Manufacturer, Indian Agent and the CAMC provider shall ensure continued supply of the spare parts for the machines and equipment supplied by them to the purchaser for 10 years after the warranty period.

15.12 The Supplier along with its Manufacturer 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 equipment/machines/goods etc. and shall always give the most competitive price for its machines/equipment 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 bid. Such notification, in its original bid 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 dispatch,
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 the supplier shall convey its views to the Purchaser within twenty-one days from the date of the supplier's receipt of the Purchaser'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 bid and incorporated in the contract except for any price adjustment authorized in the SCC.

20. Taxes and Duties

20.1 Supplier shall be entirely responsible for GST incurred until delivery of the contracted goods to the purchaser.

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

21. Terms and Mode of Payment

21.1 Payment Terms

Payment shall be made through electronic transfer in NEFT/RTGS 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 Indigenous Goods (M&E) Or Foreign Origin Located Within India.
Payment shall be made in Indian Rupees as specified in the contract in the following manner:

a)**On delivery**: 75% payment of the contract price shall be paid on receipt of goods in good condition and upon the submission of the following documents:
(i) Original copies of supplier's invoice showing contract number, goods description, quantity, packing list, unit price and total amount;
(ii) Consignee Receipt Certificate as per Section XVI of bidding document in original issued by the authorized representative of the consignee;

b) **On Acceptance**: Balance 25% payment would be made against "Installation and Acceptance Certificate" of goods to be issued by the End User subject to recoveries, if any, either on account of non-rectification of defects/deficiencies not attended by the Supplier or otherwise. "Installation and Acceptance Certificate" need to be issued by the concerned End User after installation, commissioning, testing and successful trial run (if applicable).

B) Payment for Imported Goods(M&E): Payment for foreign currency portion shall be made in the currency as specified in the contract in the following manner:

a) **On Shipment**: 75% of the net FCA/CIP price (i.e. FCA/CIP price less Indian Agency commission) of the goods despatch by Sea/Air 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) Commercial Supplier's Invoice giving full details of the goods including quantity, value, etc.;
ii) Packing list;
iii) Certificate of country of origin;
iv) Negotiable clean Bill of Lading/Airway Bill;
v) Insurance Certificate; (if applicable)
vi) Manufacturer's guarantee and Inspection certificate; (if applicable)
vii) Inspection certificate issued by the Purchaser's Inspector; (if applicable)
viii) Inspection certificate by SGS/Lloyd/Bureau Veritas/TUV etc
ix) Any other document(s) as and if required in terms of the contract.

b) **On Acceptance**: Balance payment of 25% of net FCA/CIP price of goods would be made against "Installation and Acceptance Certificate" to be issued by the End User 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. "Installation and Acceptance Certificate" need to be issued by the concerned End User after installation, commissioning, testing and successful trail run (if applicable).

c) Payment of Consumable Imported Goods/Reagents/Kits would be made 100% against "Installation and Acceptance Certificate" to be issued by the End User through Wire Transfer.

d) **Payment of Incidental Costs:** Incidental costs till consignee site towards Incidental Services (including Installation & Commissioning, Supervision, Demonstration and Training),if applicable will be paid in Indian Rupees to the Indian Agent on submission of "Installation and Acceptance Certificate" by the End User.

e) **Payment of Indian Agency Commission**: Indian Agency Commission (IAC) will be paid to the Authorised manufacturer's agent in Indian rupees indicated in the contract (as per prevailing rate of exchange ruling on the date of Contract) and shall not be subject to further escalation/exchange variation. The agency commission payment shall be made on submission of "Installation and Acceptance Certificate" by the End User.

C) Payment of Civil/Electrical Works at site: The payment related to Civil/Electrical Works at site will be made as indicated in the contract (as per prevailing rate of exchange ruling on the date of Contract) and shall not be subject to further escalation/exchange variation. The payment for Civil/Electrical works shall be made on submission of "Installation and Acceptance Certificate" by the End User.

D) Payment for Comprehensive Annual Maintenance Contract Charges: The consignee will enter into CAMC with the supplier at the rates as stipulated in the contract. The payment of CAMC will be made on six monthly basis after satisfactory completion of said period, duly certified by the End User 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 of the bidding document valid till 3 months after expiry of entire CAMC period. The Performance Bank Guarantee for CAMC will be applicable in case of contract value is more than Rs. 10 lakh.

21.2 Terms of payment for imported goods

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

21.2.2 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.

21.2.3 Irrevocable & non-transferable LC shall be opened by the Purchaser.. If LC is required to be extended and/or amended for reasons not attributable to the purchaser, the charges thereof shall be borne by the supplier.

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

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

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

21.2.7 While claiming reimbursement of duties, taxes etc. (like GST, sales tax, excise duty, custom duty) from the Purchaser, 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, the supplier shall refund to the Purchaser forthwith.

22. Delivery

22.1 The supplier shall deliver the goods and perform the services under the contract within the time schedule specified by the Purchaser 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 no 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 in writing about the same and its likely duration and make a request to the Purchaser for extension of the delivery schedule accordingly. On receiving the supplier's communication, the Purchaser shall examine the situation as soon as possible and, at its discretion, may agree to extend the delivery schedule, with or without liquidated damages for completion of supplier's contractual obligations by issuing an amendment to the contract.

22.4 When the period of delivery is extended due to unexcused delay by the supplier, the amendment letter extending the delivery period shall, inter alia contain the following conditions:

(a) The Purchaser 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 GST 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 shall be entitled to the benefit of any decrease in price on account of reduction in or remission of customs duty and GST 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 for extension of delivery period and obtain the same before dispatch. 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 contract.

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

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

23. Liquidated Damages

23.1 Subject to GCC clause 26, if the supplier fails to deliver or install/commission any or all of the goods or fails to perform the services within the time frame(s) incorporated in the contract, the Purchaser shall, without prejudice to other rights and remedies available to the Purchaser under the contract, deduct from the contract price, as liquidated damages, a sum equivalent to 0.5% per week of delay or part thereof on delayed supply of goods, installation, commissioning and/or services until actual delivery or performance subject to a maximum of 10% of the contract price. Once the maximum is reached Purchaser 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 without prejudice to any other contractual rights and remedies available to it the Purchaser, 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 pursuant to GCC sub-clauses 22.3 and 22.4.

24.2 The Performance Security in such cases will be forfeited.

24.3 Unless otherwise instructed by the Purchaser, 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.

26. Force Majeure

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

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

26.3 If a Force Majeure situation arises, the supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof within twenty one days of occurrence of such event. Unless otherwise directed by the Purchaser 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 is unable to fulfil its contractual commitment and responsibility, the Purchaser 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 reserves the right to terminate the contract, in whole or in part for its Purchaser'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. 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 following the contract terms, conditions and prices. For the remaining goods and services, the Purchaser 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 GIB 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 Facsimile/email 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.

30.3 In the case of a dispute or difference arising between the Purchaser 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 to be appointed by the Director, SCTIMST. 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 lakh (Rs. 1,00,000/-).

30.4 **Venue of Arbitration:** The venue of arbitration shall be the place from where the contract has been issued, i.e., Thiruvananthapuram, Kerala, India.

30.5 **Jurisdiction of the court** will be from the place where the Bidding Document has been issued, i.e., Thiruvananthapuram, Kerala, 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

32.1 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.

32.2 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. Fall Clause

Fall clause is a price safety mechanism. The fall clause provides that if the contract holder reduces its price or sells or even offers to sell the contracted goods of identical specification and terms & conditions to that of the contract, at a price lower than the contract price, to any person or organization during the currency of the Contract, the Contract price will be automatically reduced with effect from that date for all the subsequent supplies under the Contract and the contract amended accordingly.

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.

Any specific clause, mentioned in the technical specification shall prevail and will supersede the similar clause mentioned anywhere in the tender.

The warranty &CAMC period will be as mentioned in the list of requirement as per section VI of the Bidding Document.

SECTION- VI

LIST OF REQUIREMENTS

Part I:

Sl. no.	Short Description of goods	Quantity	Warranty Period	CAMC period after warranty
I	**MEDICAL GAS PIPELINE SYSTEM**	1 NO.		

Part II: Required Delivery Schedule:

For Indigenous or Imported goods:

Supply, Installation and Commissioning to be completed within **90 days** from the date of Purchase Order or date of opening of LC or date of approval of layout drawing (in case applicable) or readiness of site as certified by the institute whichever is later.

(In case of LC opening, necessary documents like valid Performance Security and Proforma Invoice are to be submitted within 30 days from the date of release of Purchase Order. In case layout drawing approval is applicable, it should be submitted by the supplier within 21 days from the date of release of Purchase Order.)

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

Readiness of site should be ensured by the supplier before delivery of goods.

Part III: Scope of Incidental Services:

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

Part IV: Turnkey Work (if any) as per details in Technical Specification.

Part V: Warranty period as per details mentioned in technical specification and as specified in Part I above. Warranty period will start from the date of installation, commissioning and acceptance.

Comprehensive Annual Maintenance Contract (CAMC) as per details in Technical Specification as specified in part I above. Comprehensive Annual Maintenance Contract (CAMC) will start from the date of successful completion of warranty period.

Part VI: Required Terms of Delivery and Destination.

a) For Indigenous goods or for imported goods if supplied from India:
Free Delivery at Consignee's Site(s)

b) For Imported goods directly from abroad:

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

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.

c) The Consignee details are as under but the supplier is required to deliver the goods at the designated site in the floor and building of concerned Centers/Hospital/Departments:

Consignee/Site	Air Port	Sea Port
The Director, Sree Chitra Tirunal Institute For Medical Sciences and Technology, Medical College P.O, Thiruvananthapuram - 695011, Kerala	Thiruvananthapuram	Kochi

Note: The consignee will ensure timely issue of NMIC, CDEC etc., wherever applicable to the supplier.

SECTION - VII

TECHNICAL SPECIFICATION AND GENERAL POINTS

PREAMBLE TO BOQ
BOQ shall be read and construed in conjunction with other Contract Documents.
General directions and description of work and material given in the Technical Specification and codes are not necessarily repeated in the Bill of Quantities. The Technical Specification forms an integral part of the Bill of Quantities.
The Tenderer is obliged to check the number of the pages of the Bill of Quantities and should any be found missing or duplicated or the figures, the Tenderer must notify the Employer/Engineer at once and have the matter rectified before the Tender is submitted. No liability whatsoever will be accepted in respect of any claim for errors in the Tenderer's offer resulting from failure to comply with the afore-going.
Notwithstanding that practical care was exercised in preparing the BOQ, but all quantities given herein shall be deemed to be estimated quantities of the work to be done but they are not to be taken as actual and correct quantities of the work to be executed and they are not to absolve the contractor of his obligations under the Contract. They are not to be taken as guarantee that the actual quantities increase or decrease, and any claim whatsoever submitted for cost or extra expenses incurred from such increase or decrease will not be accepted by Employer/Engineer except where else stipulated in the Contract.
All materials used are to be of the best new available and subject to the Employer/Engineer approval, and of durable nature, guaranteed, not liable to any base exchange and manufactured according to applicable Standards. Execution also is subject to approval of Employer/Engineer and shall be the best available common practice in engineering codes at the time of execution.
Items that contain materials or products of special make with names of manufacturers are to be taken as samples of what will be required. Subject to the Employer/Engineer approval.
The contractor will also be responsible for any defect that may result from his work and shall be corrected on his own cost.
The Engineer has the right to increase, decrease or even cancel any specific item in the BOQ without any change in unit or contract price.
The contract price includes the submissions of all user manuals, catalogues, software's and other related submittals the Engineer may request.
The Unit Price shall cover all costs of every kind whatsoever including, without being limited to, all charges for additional site installations, relocation, supervision, labour, transportation and supply of materials; the provision, maintenance, use and efficient repair of all plant, equipment and appliance of every kind, the construction and maintenance of all temporary works, the performance of all services and the fulfilment of all obligations and responsibilities herein defined.
All contamination removal (refuse, debris, building rubbish and the like) arising from or in connection with the Contractor's work.
Protection of the executed works and of the items made available for execution of the works from damage, fire, inclement weather, and theft etc., to the time of final handing over.
Any type of tests to be carried out on materials and works, etc., as required by the Institute.
Price should include all excavation, warning tape for the work, backfilling with compaction in every 20cm, supporting of trenches and all associated works.

The prices should include all required tests and any temporary works such as the temporary installation of fittings etc..,,
The concrete foundations for the installation of equipments shall be in the scope of the civil contractor, all coordination for the installation of flange plates, supports shall be checked and confirmed by the MGPS contractor before and after pouring the concrete. All reworks due to misalignments/wrong installation shall be in the scope of MGPS contractor (including cost) and rework in all respect to be done.
All materials, fixing materials, accessories, hardware, operations, tools, equipment, consumables, civil works wherever involved and incidentals required in preparations for in the full and entire execution and completion of the work called for the item and as per specifications and drawings completely.
The installation price under A, B & C (Plant & Manifold, Distribution, and Service Outlets) or any other items shall include supply and fixing of supporting steel structures grouting of the same including civil works etc. as required.
The successful contractors shall submit the Schematic diagrams, fabrication drawings with details of equipment wiring diagrams etc. to SCTIMST for approval prior to supply / commencement of such works. The approval of these drawings will be general and will not absolve to contractor of the responsibility of the correctness of these drawings. At least four copies of the approved drawings supplied to SCTIMST for their distribution to various agencies at site at no cost to owner.
All testing and calibration charges for the meters shall be included in the installation price of all type of Meterings.
The tender shall take into account the expenses of pre-commissioning tests to be conducted as per specification of the complete installation by licensed agencies.
All the items of work shall be treated as supply, store, installation, testing, commissioning and handover unless otherwise mentioned.
Minor Civil Works: 12mm diameter copper pipes for drop lines (12mm size) for medical gas outlets- flush type and Bed head panels. All civil works such as wall chases using groove cutting machine, (concealed pipes through medium gauge balco conduits) finishing with chicken mesh and rough plastering of all grooves, making openings in wall / floor and re-doing, fire sealant applications on fire compartment crossing areas etc..,, form part of rate quoted against installation cost of particular item in BOQ and shall not be measured separately.
Any other service damaged during the works shall be repaired and/or replaced and all necessary precautions shall be taken under this Contract to ensure that the existing services are maintained and are not damaged. The Engineer shall be advised immediately of any service which has been damaged during the work and replaced or repaired under MGPS contractor cost for this Contract.
All opening made in walls for the passage of MGPS trays/pipes etc..,, shall be covered with Fire rated sealants in fire compartment crossing areas and made air tight after installations.

Hacking on wall surfaces shall be done only with cutting machine and care to be taken to ensure that light weight concrete blocks(Autoclaved Aerated Concrete(AAC) Blocks) used for walls is not damaged. After installation and testing of medical gas lines the chases/grooves made on wall/other surfaces shall be finished to appropriate levels with cement mortar. Final finishing shall be with premixed formulated gypsum lightweight plaster having additives and lightweight aggregates confirming to IS: 2547 (Part 1&2)1976, to be applied on hacked surface/uneven background on wall /ceiling finished in smooth line and level etc. complete. All core cutting/hacking for reinforced concrete portions that interfaces the route of medical gas lines (concrete slabs, lintels and RCC bands in walls) shall be under scope of the Contractor. At locations where cement plaster is required for final finishing the same shall carried out after providing chicken mesh at required locations. Those locations where putty finishing is required the same shall also be carried out by the Contractor. Making openings in floor and re-doing, fire sealant applications on fire compartment crossing areas shall also be under the scope of the Contractor if required.
There are multiple agencies working at site and the Contractor has to coordinate/liaise with those agencies and ensure smooth execution of work.
Switchgear details in case of supply and installation: In case of discrepancy between technical specification and drawings, the details provided in drawings shall be considered as final unless otherwise specified. Short circuit levels of switchgear shall be read from the single line diagrams. The switchgear shall be coordinated for over current, short circuit and earth fault levels, drawings to be submitted to SCTIMST in case of any deviations/ changes and approval from SCTIMST to be taken before supply and execution.
BATTERY LIMITS
Safe Storage of all items including client supplied items : Mgps Contractor
Foundation concrete shuttering/reinforcement and pouring the concrete for foundations : MGPS Contractor
Foundations sizes confirmation, supply of flanges, nuts, bolts, plates etc... And coordination: Mgps Contractor, foundation works to be coordinated.
All civil works such as wall chases using groove cutting machine, (concealed pipes through medium gauge balco conduits) finishing with chicken mesh and rough plastering of all grooves, making openings in wall / floor and re-doing , fire sealant applications on fire compartment crossing areas - MGPS Contractor
Testing Commissioning electrical connection required items: Mgps contractor in coordination with Electrical contractor
Supply & unloading of all items at site: Mgps Contractor.
Material Receipt at site and pre inspections of delivered material: Mgps Contractor
Fixing Of Route Markers : Mgps Contractor
Supply & installation of Starter Box/VFD Panels/Isolator Boxes for all Equipments: Mgps Contractor (respective items rates shall include cost of control boxes). (Drawing / scheme approval for these items to be taken from SCTIMST before supply & erection)
Equipment Earthing / Body Earthing : Mgps Contractor
Glanding of Cables & Providing Lugs For Cables In all Equipments : Mgps Contractor
Terminations Inside the Equipments: Mgps Contractor.
All control Cabling , Control cable glanding with Cu Lugs In all Equipments : Mgps Contractor
Testing & Commissioning of all equipments supplied for Mgps system : Mgps Contractor
Colour coding of the Mgps system / Piping to be included in respective item rates.
RESPONSIBILITY OF BIDDER
Bidder shall be responsible for complete design, supply, installation, testing and commissioning including Civil

Modification works, demolition and construction as applicable .The bidders are required to survey the site before furnishing the quotations.
Bidder shall execute all required civil, electrical, plumbing, lighting, fire safety, exhaust systems, false ceiling trap door/ cutout and repair(if any) and other works as maybe required for complete installation and trouble-free functioning as a part of the Civil Modification.
Hospital will provide one point electrical supply with isolator in the plant room. The wiring, lighting, fans, exhaust etc have to be done by the bidder.
Control panel for Vacuum system and Air plant system has to be supplied by the bidder.
Bidder will be responsible for trenching or other associated work related to installation and commissioning of complete MGPS system.
The MGPS bidder has to terminate/interconnect all the medical gas lines up to/to the Pendant in OT/MOT and Cath Lab.
Installation and commissioning of area valve service unit and alarm unit for the OTs, ICUs, Cath Labs etc shall be done by the MGPS bidder.
Medical gas pipe line inside the operation theatres and cath labs has to be done by the MGPS bidder. MGPS bidder shall cooperate with the MOT and Cath Lab bidder for associated works. The interconnection of MOT Gas pipelines is the responsibility of MGPS bidder. The MGPS bidder has to terminate/interconnect all the medical gas lines and outlets to the Pendants in OT and Cath lab.
The bidder shall be responsible for the complete works including the submission of working drawings, and isometric views, detailed work schedule and materials. Bidder shall be responsible for design, supply, installation, testing and commissioning of medical gas supply system in coordination with institute authorities.
Bidder shall be responsible for free maintenance of all component of Gas pipeline system during warranty period including all filters & consumables.
Bidder should provide factory test certificates for the materials used. Bidder should supply complete set of part manuals, service manuals and user manuals for all the systems and subsystems supplied. Final electrical safety test, system test, leakage and calibration should be done by authorized persons using calibrated test equipment as per standards.
The Medical Gas Pipe Line System must follow Single Standard any one only from: NFPA 99c/HTM 02-01/ ISO 7396-1/DIN/EN except Copper Pipe, For AGSS Ventury type is not acceptable.
Bidder shall co-ordinate with respective Departments Head for their final Gas Outlets requirement per bed in their wards and should incorporate the same in drawing.
The final Payment will be made on the actual consumption of the BOQ Items and ranking will be done with tendered BOQ.
The third party compliance certification after installation to be done for the standard followed i.e. HTM 02-01/NFPA 99C/DIN/EN/ISO-7396-1 except copper pipe from the authorized agency. The cost for the same will be borne by the bidder.
Bidder must have a satisfactory installation of complete MGPS as per any International standard as asked in tender and demo may be taken for the same.
Bidder will be provided after award either AutoCAD or PDF or hard Copy of building Layout drawing for preparation of MGPS drawings. Bidder has to submit the drawings within 20 days after award of contract.
Bidder should be responsible for suitable arrangement of heat dissipation and Air-Conditioning as per offered MGPS plant requirement/recommendations from the Manufacturer and as per local site condition. Bidder should also take care of backup arrangement for AC and Exhausts as the MGPS Plant may run 24x7 as per the requirement.
Gas outlet configuration location wise as below: OPD:- O2-1 and Vac-1 Emergency Room per bed:- O2-1, MA4-1 and Vac-1 Pay Ward: - O2-1, MA4-1 and Vac-1. ICU per bed: - O2-2, MA4-2 and Vac-2. Step Down ICU and Wards: - O2-2, MA4-2 and Vac-2. Detailed disposition of outlets is attached as annexure. The Configuration may change as per special request from consignee/institute specific requirements, if any
Medical gas piping with dual circuits for Oxygen, Air and Vacuum shall be provided in all critical care patient areas like CCU, General ICU, Step down wards etc
Bidder should be responsible for dedicated earthling (Chemical type) for MGPS Plant room(If required)

Bidder has to design the MGPS system as per BOQ & specification mentioned in the tender, any clarification/suggestions regarding the design of MGPS system should be Submitted before pre-bid meeting.
Bidder has to clarify their doubts or prerequisites during prebid meeting. Bidder has to submit the list of prerequisites along with bid. No further pre-requisite/requirement after placement of contract will be addressed.
All tanks (Air, Vac and AGSS(if applicable) should be installed inside of the MGPS Plant room on dedicated platform near MGPS Plant room and this platform should be responsibility of MGPS Bidder as per their requirement.
Bidder shall provide switch/socket for MGPS Area alarms (Above false ceiling level) on the location as approved/required by consignee.
Institute will provide one point electrical, water and drain connection at the plant & manifold room. Institute will provide dedicated shaft for MGPS riser.
Institute will provide electrical power & Data input at all Bed Head Panel Locations at the height of 1250mm (centre of the BHP) from FFL as per approved plan of consignee.
The successful tenderer will be required to undertake to provide at his cost technical training for personnel involved in the use and handling of the equipment on site at the institute immediately after its installation. The company shall be required to train the institute personnel onsite for a minimum period of 1 month.
The institute will provide MGPS plant & manifold room (complete with plastering, painting & flooring as per approved drawing of the Institute)
The storing of raw materials of MGPS system during installation period and the security of the materials is the responsibility of MGPS vendor.

	MGPS Technical Specification
	The MGPS comprises of:
1	Oxygen Manifold with automatic control panel and Emergency oxygen manifold.
2	Carbon Dioxide Manifold with automatic control panel.
3	Medical Air Supply System (4 Bar & 7 Bar) complete.
4	Medical Vacuum (suction) Supply System Complete.
5	AGSS system Complete
6	Distribution Piping Complete with Accessories.
7	Gas Outlets with Probes.
8	Master Plant Alarm
9	Area valve Service units with Area Alarms.
10	Bed Head Panels.
11	Pendants.
	Scope and Technical Specification:
1	**OXYGEN SUPPLY SYSTEM**
1.1	**Fully Automatic Oxygen Control Panel:**
a	Automatic control panel should be constructed in accordance with the requirement of international standards. The fully automatic oxygen control panel should comply with HTM 02-01/NFPA 99C/ DIN / EN / ISO-7396-1 standards. It should be US FDA / European CE Certified with 4 digit notified body number or American ETL/ American UL listed.

b	The manifold assembly should provide two stages of pressure regulation. A single stage primary regulator, one for each cylinder bank should be used to initially reduce cylinder pressure and two single stage pressure regulators should be provided in the control cabinet for final delivery pressure regulation. One delivery pressure regulator in service and one should be ready for service in a standby mode.The Manifold control panel should be with digital display, fully automatic type and switches from "Bank in Use" to "Reserve bank " without fluctuation in delivery supply line pressure. Changeover should be performed by electrically/pneumatically operated valves contained in the control cabinet. In the event of an electrical power failure (in case of electronically operated) the valves should automatically open to provide an uninterrupted gas flow. It should be 100% automatic and should not require manual adjustment. After the cylinder change, the switch-over will only take place after the currently active side has run completely empty.
c	The typical configuration for central gas supply systems is in accordance with HTM 0201 / DIN EN ISO 7396-1 & consists of 3 supply sources.
d	The control panel should able to regulate and control either .
e	The control unit, integrated into the control panel should monitor all pressures of the active and passive gas sources, which are necessary for the safe and uninterrupted system operation.
f	Indication for changing the cylinders should be clearly identified on the front of the control panel.
g	All functional components should be enclosed in corrosion resistant robust material.
h	All components inside the Control Panel like Pressure Regulators, piping and control switching equipment should be cleaned for Oxygen Service and installed inside the cabinet to minimize tampering with the regulators or switch settings.
i	In case of a main source failure of the left and right side of the cylinder manifold, the third source supply must be guaranteed.
j	The Control Panel shall include two pressure relief valves, one high pressure approx.200/350psi and one low pressure approx.75 psi.
k	The heavy duty control panel should be provided with a flow capacity of 2000 or more LPM at 50 to 60 psi.
	The Modular Manifold system should be in such a way that it increases flexibility and allows easy enlargement of the manifold capacity in case of future expansion. The system should comprise basic components and shall be constructed of i.e. Primary Header, Secondary Header, cylinder racks, non-return valve, blanking plug, and corner connector.
l	The Automatic Control Panel should be installed in such a way to meet the peak flow requirement of the Hospital/Institute
m	Control panel should have Alarm reset switch/Mute /acknowledgement switch to control and monitor the alarm indications by the operator.
n	Control panel should provide following displays. i. Display of system pressure ii. Display of gas flow iii. Display of currently active source iv. online checklist for the cylinder change v. Range calculation for the active source
o	If a pressure parameter deviates significantly from the respective nominal pressure, an alarm is activated immediately, to ensure that disturbances in the system are recognized.
p	Recording of all alarm messages including the date of occurrence for each message.

q	The automatic gas manifold control should include: - supply pressure gauges x 2Nos - delivery pressure gauge x 1No - Line pressure regulators with bypass valve x 2Nos - line pressure relief valve x 1No - green in service LED indicators, one for each supply bank x 2Nos - amber / yellow ready for service LED indicators, one for each supply valve x 2Nos - red LEDs to indicate depleted cylinders, one for each supply bank x 2Nos - Instruction for changing the cylinders should be clearly identified on the front of the control panel
r	Supply installation testing and commissioning of Mass flow meter with digital display for measuring and monitoring the oxygen consumption.
1.2	**Oxygen Manifold Supply System (without Cylinders)**
a	The size of Manifolds should be as mentioned in BOQ and it shall be compatible with Class-D type bulk cylinders.
b	Manifold shall consist of two high pressure header bar assemblies to facilitate connection of primary and secondary cylinder supplies. Each header bar shall be provided with respective numbers of cylinder pigtail connections to suit cylinder valves as per IS.3224/ BS/ ASME incorporating a check valve at the header connection.
c	Each header bar assembly shall be provided with a high pressure shut off valve. Oxygen Manifold should consist of respective numbers of class D-type bulk oxygen cylinders. The manifold should be hydraulically tested to at least 3000 psig. The manifold should be so designed that it shall suit easy cylinder changing and positioning. The system should have non –return valves for easy changing of cylinders without closing the bank. The cylinder should be placed with the help of cylinder brackets and fixing chains which should be galvanized.
1.3	**Emergency Oxygen Manifold (without Cylinders)**
a	The size of Manifolds should be as mentioned in BOQ and it shall be compatible with Class-D type bulk cylinders.
b	Manifold shall consist of two high pressure header bar assemblies to facilitate connection of primary and secondary cylinder supplies. Each header bar shall be provided with respective numbers of cylinder pigtail connections to suit cylinder valves as per IS.3224/ BS/ ASME incorporating a check valve at the header connection.
c	Each header bar assembly shall be provided with a high pressure shut off valve. Oxygen Manifold should consist of respective numbers of class D-type bulk oxygen cylinders. The manifold should be hydraulically tested to at least 3000 psig. The manifold should be so designed that it shall suit easy cylinder changing and positioning. The system should have non –return valves for easy changing of cylinders without closing the bank. The cylinder should be placed with the help of cylinder brackets and fixing chains which should be galvanized.
1.4	**Oxygen Flow meter with Humidifier Bottle-Single**
a	Back Pressure Compensated flow meter for accurate gas flow measurement with following features:
b	Control within a range of 0-15 LPM.
c	It should meet strict precision and durability standard.
d	The flow meter body should be made of brass chrome plated materials.
e	The flow tube and shroud components should be made of clear, impact resistant polycarbonate.
f	Flow tube should have large and expanded 0-15 LPM range for improved readability at low flows.
g	Inlet filter of stainless steel wire mesh to prevent entry of foreign particles
h	The humidifier bottle is made of unbreakable & reusable polycarbonate material autoclavable at 134 degree centigrade .
i	Humidifier Bottle should be covered under warranty & CMC.
j	The humidifier should have built in safety valve. With Calibration Certificate, complete as per specifications

k	Should be BIS/European CE certified with 4 digit notified body no/ UL Listed/US FDA/ETL listed
1.5	**Twin BPC Oxygen Flow meter with Humidifier Bottle,flowmeter with nebulization brass adaptor**
a	Back Pressure Compensated flow meter for accurate gas flow measurement with following features:
b	Control within a range of 0-15 LPM.
c	It should meet strict precision and durability standard.
d	The flow meter body should be made of brass chrome plated materials.
e	The flow tube and shroud components should be made of clear, impact resistant polycarbonate.
f	Flow tube should have large and expanded 0-15 LPM range for improved readability at low flows.
g	Inlet filter of stainless steel wire mesh to prevent entry of foreign particles
h	The humidifier bottle is made of unbreakable & reusable polycarbonate material autoclavable at 134 degree centigrade .
i	Humidifier Bottle should be covered under warranty & CMC.
j	The humidifier should have built in safety valve. With Calibration Certificate, complete as per specifications
k	Should be BIS/European CE certified with 4 digit notified body no/ UL Listed/US FDA/ETL listed
1.6	**High pressure tube for O2, Compressed Air, CO2, & Vacuum**
a	It should be colour coded for individual services i.e. white for Oxygen, Yellow for Vacuum, Black for air. Antistatic rubber tube should be as per ISO standards.
2	**CARBON DIOXIDE SUPPLY SYSTEM**
2.1	**Fully Automatic Control panel for CO2 System**
a	The size of Manifolds should be as mentioned in BOQ and it shall be compatible with Class-D type bulk cylinders.
b	The Manifold Control System should supply any type of medical gas from both left and right hand manifold banks. Operation and performance criteria should fully satisfy the requirements of HTM 02-01/ NFPA 99 C/EN/DIN/ ISO 7396-1 standard. The fully automatic CO2 control panel should comply with the standard. It should be European CE Certified or UL listed under Medical Devices Directive.
c	The Manifold Control System shall supply on uninterrupted flow of 500 L/min. to a 400 k Pa (4bar) distribution system. Either the left or right hand manifold bank may be designated "Duty" and should automatically changeover to supply the distribution system from the "Standby" bank when pressure in the "Duty" bank falls to a predetermined level.
d	There should be a 2 stage duplex system of pressure regulation to provide a high flow rate. Each side should be capable of being fully isolated, via a full flow ball valve, in order to change any regulator without a cessation of supply. The inlet of the 1st stage regulator should be protected from the particulate matter by a moulded bronze filter.
e	All regulators should be protected from over-pressurization by relief valves which are vented to atmosphere. There should be a bypass valve fitted to the 2nd stage regulators to allow CO2 to be vented outside the manifold room during the commissioning stage. Regulators shall comply with BS EN ISO 10524-2 and shall have documented test reports available confirming successful completion of the oxygen ignition tests stated therein. Multi stage regulators combined into single unit is not acceptable.
f	To simplify installation there should be an installation bracket attached to the wall with four screws; the main panel then should locate on to this bracket and be secured. The Control Panel should be housed in a single panel having a solid construction using epoxy technology in a glass reinforced polymer moulding for high strength, high chemical and corrosion resistance. The cover should hinge upwards but should remain facing outward for manual operation and maintenance accessibility. For added safety the voltage inside the panel should not exceed 12v dc. The mains supply transformer should be in its own housing in a moulded recess at the rear of the panel.

g	There should be a fail-safe system in the event of power failure so that solenoid valves open and there is full continuity of supply pressure and flow. Upon power restoration the unit should revert back to the original bank of cylinders being used. To avoid inadvertent resetting of the “change cylinder alarm” the solenoid valves should be latched so that once changeover has occurred and the cylinders have been replaced, a reset button must be operated to cancel the alarm condition.
h	To aid maintenance, the connections within the panel should be flat face/'O' ring design and facilitate easy removal of the regulators and pressure switches. There should be manual changeover buttons so that servicing either side of the system can be simply achieved. The PCB's should be linked with plug and socket connectors for easy removal. The manifold control systems should be 'CE' marked under the Medical Devices Directive (Lloyd’s Register Quality Assurance).
i	Control panel should have Alarm reset switch to control and monitor the alarm indications by the operator. All high pressure manifold regulators should contain no halogenated polymers and have adiabatic certification.
2.2	**Carbon Dioxide Manifold System (Without Cylinders)**
a	The size of Manifolds should be as mentioned in BOQ and it shall be compatible with Class-D type bulk cylinders.
b	The primary head should be mounted on an 8 cylinder rack which can be connected to the left and right inlets of automatic Control Panel. Each header should have a class D type bulk cylinders with high pressure shut off valve. Corner connector should be available to enable installation of manifold headers around corners of the room. The manifold supply system cylinder rack should locate vertical gas cylinders which should be restrained by chains. It should be made from steel for durability and with powder coated paint finish.
c	Heater should be added to prevent freezing in the line and the line should be insulated properly.
d	Each Non-return valve shall have a hard seat ceramic ball. Soft seat Non-return valves are not acceptable. The non – return valves should be incorporated into the header assembly to protect the system in the event of tailpipe fracture. For better access and increased safety, the non-return valve block should be positioned on the header rack mid – way between the cylinder positions. Flexible copper tail pipes should be used to connect the gas cylinders and the manifold header connection points.
e	A custom length corner connector shall also be available to enable header manifolds to be installed in a “U” configuration across 3 adjacent walls of the room. Manifold shall have specific tailpipe connections
f	Manifold shall consist of two high-pressure header bar assemblies to facilitate connection of primary and secondary cylinder supplies. Each header bar shall be provided with 8 number of cylinder pigtail connections to suit cylinder valves as per IS3224 incorporating a check valve at the header connection. The high-pressure header bar shall be designed in such a manner that it can be extended to facilitate additional cylinder connections. Each header bar assembly shall be provided with a high pressure shut off valve. The manifold should be so designed that it shall suit easy cylinder changing and positioning. The cylinder should be locked with the help of cylinder brackets and fixing chains which should be galvanized.
g	The Modular Manifold system should be in such a way that it increases flexibility and allows easy enlargement of the manifold capacity in case of future expansion. The system should comprise basic components and shall be constructed of i.e. Primary Header, Secondary Header, cylinder racks, non-return valve, blanking plug, and corner connector.
3	**MEDICAL AND SURGICAL AIR SYSTEM(PACKAGE UNIT)**
3.1	**Air Compressor-4 Nos**
a	Air-cooled Oil-Less reciprocating compressors for continuous duty application with highest output of compressed air, low power consumption and very low vibration resulting in low noise level.
b	The medical air plant shall fully comply with the requirements of the HTM 02-01/ NFPA 99 C/EN/DIN/ISO 7396-1. It should be US FDA / European CE Certified with 4 digit notified body number or American ETL/ American UL listed (Incase of NFPA 99c the control panel of plant must be UL/ETL Listed and Undertaking from manufacturer for this tender reference must be submitted for using the same

	control panel in the system offered)
c	QUADRULEX AIR PLANT MUST HAVE 4 RECIPROCATING OILFREE COMPRESSORS IN COMPACT SUPER SOUND ABSORBING TOWER DESIGN COMPLETE WITH ALL REQUIRED COOLING, CONTROL AND MONITORING FACILITIES FOR OPERATIONS IN SYSTEM WITH 2 COMPRESSORS RUNNING & 2 COMPRESSOR STANDBY, A CONTROL PANEL, 2 AIR RECEIVERS OF 1000 LTR EACH, 2 DRYER AND FILTRATION UNIT, 3 STAGE CONDITIONING SYSTEMS WITH FILTERS AND ADSORPTION DRYER AND A PRESSURE REDUCER STATION. THE INSTALLATION AND SUPPLYMUST FULLY COMPLY WITH THE STANDARD EN ISO 7396-1: 2007/ HTM-02-01/DIN. THE PRODUCED AIR MUST BE FOR MEDICAL USE ACCORDING TO THE EUROPEAN PHARMACOPOEIA AS FOLLOWING. EACH COMPRESSOR SHOULD HAVE MINIMUM FAD OF 2000 LPM (PLANT OUTPUT WILL BE 4000 LPM).
d	Compressor shall be in compact, super sound-absorbing duplex tower design, complete with all required cooling, control and monitoring facilities for operation in systems with three or four compressors each. The system shall control using a central load switch-over control. The duty compressors shall be automatically rotated by the plant control system to ensure even wear. The system should be designed for two compressors as duty and two as stand-by as the standard operating condition but in case of any higher demand all the compressors also can run simultaneously to meet the demand if required so, for fixed duration of time under exceptional circumstances.
e	It should be Oil-Less reciprocating Compressors to produce the plant output of {minimum Liters Per Minutes(LPM) Plant capacity } as mentioned in BOQ as primary and same capacity as standby.
f	Medical quality air shall be delivered at a nominal pressure of 400 kPa (4 bar) and 700kPa(7bar) gauge for supply of the hospital medical air and surgical air.
g	Compressor plant should be designed in such a way that compressors will switch on in a sequential manner as per flow demand.
h	Each motor shall be IE3 or above standard.
i	The compressors should be standalone ones with independent power supply.Each Compressor should be suitable for both continuous and frequent start/stop operation at a nominal plant pressure of 10bar or more.
j	The duty compressors shall be automatically rotated by the plant control system to ensure even wear. Compressors shall be supplied and installed. Desiccant dryer shall be provided with a dew point sensing switch that shall provide an alarm on the plant control panel and central hospital alarm system when the water concentration in the delivered air rises above the limit. Duplex desiccant dryer and filtration modules shall be provided with three or more individual stages of filtration as follows:
k	Stage 1: Coalescing filter upstream of the desiccant dryer for removing liquid water particles down to 1micron.
l	Stage 2: Particulate filter after the desiccant dryer for dust protection and removing particles down to 1 micron.
m	Stage 3: Bacteria filter for removing particles down to 0.01 micron.
n	Purity should be tested as per the American Pharmacopeia / European Pharmacopeia standard.
o	The plant control and power management system shall monitor the safe operation of the plant, providing signal into the alarm system as per the requirements of the standard.
p	Pressure Reducing Station: for 4 bar and 7 bar should fully comply and meet with the requirements of the standard. Simplex pressure reducing station shall comprise as in-line pressure regulator, with downstream pressure gauge. Isolation valves and pressure release valves should be provided as per the standard. Duplex pressure reducing station to have two branches, connected to the MGPS in parallel in order to allow maintenance on the components of one branch, while the gas flow is maintained in the other branch.Ball Valves - Full bore which operate from fully open to fully closed position with a quarter turn of the handle.Complete pressure reducing station with base plate mounted for ease of installation.

q	Padlocks (if applicable to standards) available to allow locking of the valves in both open and closed positions and must have easy to read pressure gauges. Base plate mounted and supplied with copper stub pipes for ease of installation using inert jointing procedures.
r	The motor shall be of standard IE3 or above.
s	The compressor system should have- -Intake filter Check Valve Delivery pipe -Mounting on air tank along with all standard fittings viz. safety valve, pressure gauge, delivery valve, automatic drain valve etc. -Bidder shall provide all electric control panels, starters etc required for proper functioning of motor. -Duplex Desiccant Air Dryer – 2 nos. -Twin 3-Stage Breathing Air Filters – 2 sets -Outlet pressures for drills/equipment and ventilators should be a minimum of 7 bar and 4 bar respectively.
t	The compressor should be heavy duty, reliable with long MTBF. Each compressor cylinder is to be protected by a temperature switch, which will stop the drive motor and provide an alarm signal in the event of abnormal discharge air temperature. Each compressor module should include an inline filter with particle retention of 10 microns, inlet isolation valve, discharge isolation valve, and pressure relief valve. The capacity should be capable to take care of total load of all the outlets.
3.2	**Air Receiver-2 Nos**
a	The capacity of each receiver shall be 2000 Liter in terms of free air delivered at normal working pressure.
b	Each air receiver shall be protected by a pressure relief valve, a fusible plug and include a pressure gauge with isolating valve and a drain cock.
c	The corrosion resistant coated receiver is to be equipped with tested safety pressure relief valve, pressure gauge, automatic drain, three-valve by-pass and source isolation valve. Should be fabricated as per ISO/ASME/BS.
d	Air receiver with manufacturer's certificate acc. § 9 of Pressure Vessel Air receiver in vertical version, internally and externally galvanised, externally varnished in colour RAL 5012 (blue) with pressure gauge, control flange and type-approved safety valve.Operating pressure: 16 bar
3.3	**Air Treatment Module-2 Nos**
a	Two Duplex Dessicant dryers shall be installed.
b	The air treatment module should include dual dryers, dual filtration system and a dewpoint transmitter with local audible and visual signals and dry contacts for remote monitoring. The components should be mounted on a common base with interconnecting copper/brass piping and upstream and downstream isolation valves. The isolation valves must allow either set of components to be serviced without shutting down the system.
c	There should be two air purification system (two dryer and two sets of filters).The air purification systems must reduce the air humidity to very low dew points (-40ºC) to prevent condensate in the piping system and allow the filter system to achieve the air quality according to the European Pharmacopoeia.
d	Medical Air Quality according to European Pharmacopoeia should be achieved. In this Connection oil, water aerosols and solid particles should be removed from the compressed air. Carbon dioxide – 500ppm, carbon monoxide – 5ppm, oil – 0.1mg/cubic meter, sulpher dioxide –1ppm, Nitric oxide – 2ppm, nitrogen dioxide – 2ppm, water – 67ppm / ca.- 29.4, contamination – Limit values according to the European Pharmacopoeia 4. Version. 7 supplement.
e	The plant control unit shall control the operation of the whole system and ensures it matches demand. The plant control panel shall ensure that each compressor is run equally to maximize compressor life.
f	Duplex pressure reducing station to have two branches, connected to the MGPS in Parallel, in order to allow maintenance on the components of one branch while the gas Flow is maintained in the other branch.
g	The medical compressed air system must be certified as per Medical Device Directives (93/42/EEC) Class II b having the CE mark / UL Listing or Equivalent, notified number specified. Compliant ISO 7396 / 2503-2007 CII engineering model specification from certifying agency with copy of Certificate of country of

	origin.
h	Dryers should be of heatless desiccant design and sized to provide for the peak calculated demand. The desiccant dryers should be equipped with dew point dependent switching feature to minimize the need for purge air.
i	The dual filtration system should remove liquid and particulate matter, consisting of 0.5micron coalescing filters with differential pressure indicators and automatic drain, airline pressure regulators with gauges, final pressure relief valve, and sampling valve.
j	Each bank should consist of three stage treatment. Digital dew point monitor is to be supplied with alarm contacts as per requirement of the standard.
k	Capacity of Duplex dryers-Each 2000 LPM
3.4	**System Controls**
a	The electrical control should comply with HTM 02-01/NFPA 99C/EN/DIN standards. .The "Continuous on Demand" feature will stop the operation of the motors during periods of low or no demand. The control include individual self-protected combination motor controls with short circuit protection, single phase and thermal overload protection, individual control circuit transformers with fuseless primary and secondary protection, pressure sensors, temperature switches with reset buttons, and an electronic controller to automatically change the operating sequence of the compressors. The cabinet shall have status display to include system pressure, dew point pump operation, accumulated time, maintenance interval, fault conditions, and silence button, lighted Hand-Off-Automatic selector switches and safety disconnect operating handles. All required local alarm functions shall be integrated in to the packaged system.
b	The system should be designed to function even if the programmable controller fails.
3.5	**Accessories**
a	Accessories including for job site installation such as inlet and discharge flexible connectors, vibration mounting pads, and source isolation valve should be supplied.
b	All the filters should be covered under warranty period and CMC Period.
c	The control panel shall have energy meter.
d	Supply installation testing and commissioning of Mass flow meter with digital display for measuring and monitoring the Air consumption.
4	**MEDICAL VACUUM SYSTEMS**
4.1	**Vacuum Pumps-3 Nos**
a	Triplex Vacuum plant must have 3 rotary vane typr vacuum pumps directly driven by motor, Operations in system with 2 Vacuum pumps running and 1 vacuum pump stadby,a control panel , 2 Vacuum receivers of each 2000 LTR capacity, Secretion Trap and bacteria filter. The installation and supply must fullt comply with standards EN ISO7396-1: 2007/ /DIN. Each Vacuum should have minimum volume of free air aspirated of 3000 lpm at 450mmHg,It should be fully automatic.
b	The Oil Lubricated Rotary Vane Medical vacuum System should provide superior performance with minimal maintenance. Systems should be available in Simplex and all multiplex arrangements. The factory packaged vacuum system consists of rotary vane vacuum pumps, pre-wired control panel, receiver, and interconnecting wiring and piping, requiring only Two plumbing connection. The Medical Vacuum systems should be available as base mounted with vertical receiver size .The vacuum pumps should be continuous duty, rotary vane, oil-sealed, air cooled, direct driven units capable of continuous operation over a working range of 18" to 29" Hg. Each pump should have single shaft seals and should be equipped with an automatic Gas ballast valve to prevent condensation of the life of the oil and the system.

c	Rotary vane vacuum pump shall be used in medical gas pipeline systems. One staged rotary vane vacuum pump, directly driven via electric motor, oil-lubricated, air-cooled for generating a working pressure of max -0.98 bar. Pump shall be equipped with electromagnetic vent valve for unloading during start-up, eccentrically installed rotor with vanes for sucking in and compression of air, with oil mist separator for oil-free exhaust air, integrated non-return valve to prevent air admittance into the vacuum chamber, complete with elastic bearings for vibration-free operation, oil filter, oil view port and oil filling.
d	Designed flow capacity should be minimumof LPM capacity as mentioned in BOQ . The vacuum plant shall comprise air-cooled, oil lubricated rotary vane vacuum pumps suitable for both continuous and frequent start/stop operation at inlet vacuum levels between 500mmHg and 660 mmHg.
e	The control system should normally employ automatic rotation of the lead pump to maximize pump life and ensure even wear.Vacuum pump inlets shall include a wire mesh filter and integral non-return valve to prevent oil suck back and pressure increases in the vacuum system.
f	Each motor shall be IE3 or above standard.
g	Each pump shall have vacuum gauges, isolation valves etc.
4.2	**Vacuum Receiver-2 Nos**
a	The vacuum receiver shall be made of rust free corrosion resistant steel and fabricated as per ASME/BS/ISO for a vacuum pressure of 760mmHg. It should include bypass valves, manual drain valves, vacuum gauge. Each vacuum reservoir shall have total volume of 2000 Liter capacity as mentioned in the BOQ in one minute in terms of free air aspired at normal working pressure.
b	A vacuum tank of upright version with modified connections, inside and outside zinc-plated, including inspection/cleaning opening of 100mm. Maximum pressure to be used: 6 bar
4.3	**System Controls-1 Nos**
a	The control include individual self-protected combination motor controls with short circuit, single phase and thermal overload protection, individual control circuit transformers with primary and secondary protection, pressure sensors, temperature switches with reset buttons, and an electronic controller to automatically change the operating sequence of the compressors. The system should have a status display to show the system pressure, elapsed time, maintenance interval, fault conditions, and silence button, lighted Hand-Off-Automatic selector switches and safety disconnect operating handles.
b	All required local alarm functions should be integrated into the packaged system. The circuitry should be designed so that the audible signal can be silenced and the visual indicator will remain until the fault has been cleared and the reset button resets. Local alarm functions should be annunciated for reserve pump in use
c	Vacuum control panel must be provided for the fully automatic operation and monitoring of vacuum plants with 2 or 3 vacuum pumps.
4.4	**Duplex Bacteria Filters-2 Nos**
a	To protect engines and tanks as well as exhaust air from contamination. Include 2/3 way ball valve Absorption capacity: 99.97% with 0.2 - 0.5 microns particle size. Absorption capacity: 99.97% with 0.2 - 0.5 microns particle size.
b	The filters should be designed for removal of solid, liquid and bacterial contamination from the suction side of vacuum pump systems, preventing damage to the pump and the potential biological infection of the surrounding environment. The dryer should be particulate filter dryer with ability to remove particles as small as 1micron.
c	Each individual filter shall have the capacity to deliver full design flow such that one set is designated duty and the other will be standby. Bacteria filters shall have efficiency at least 99.999% when tested by the sodium flame method in accordance with BS 3928:1969/as per required standard utilising particles in the 0.02 to 2 micron size range. The pressure drop across each clean filter at 50% of the system design flow should not exceed 25 mm Hg (3 kPa) at a vacuum of 475mm of Hg (63 kPa). Bacteria filters shall be marked with the legend ‘Bio-Hazard’.

d	Each bacteria filter shall be provided with a transparent sterilizable collection jar to collect condensate. The total water capacity of the pressure vessels shall be at least 100% of the design flow rate of the plant in 1 minute in terms of free air aspired.
4.5	**Accessories**
a	Accessories included for job site installation are inlet and discharge flexible connectors, vibration mounting pads, and source isolation valve, inlet check valve, oil temperature gauge,thermal malfunction switch and vacuum control switch.
b	Flexible connectors on inlet and exhaust of each pump, exhaust tee with union as well as copper tubing with Shutoff- cock for gauge/bypass valve and vacuum switch etc.
c	All the filters should be covered under warranty period and CMC Period.
4.6	**Ward Vacuum Units**
a	It must consists of the following:-1no of Suction Regulator and 1no of 600 ml polycarbonate collection jar.
b	Suction Regulator: Suction regulator should be supplied with a safety jar, including and antibacterial filter and an anti-overflow safety device. Should have wide membrane continuous suction controller.
c	Should have vacuum levels: 0-750 mm Hg or more
d	Should have vacuum gauge fitted with a protective bumper device.
e	Should have on/off knob allowing for the quick restoration of a readjusted vacuum level.
f	Must have central adjustment knob with a color coded for 0 to 760 mm of Hg.
g	Should have polycarbonate 600ml safety jar, autoclavable at 134º C at 5mins, unbreakable, fitted with an anti-overflow safety device and equipped with a plastic antibacterial filter. It should be totally transparent, to ensure perfect sucked liquid visibility.
h	Jar should be covered under warranty and CMC.
i	The units shall be clamped to the wall using suitable clamps. With Calibration Certificate's. ---- etc., complete as per specification including clamp fixing as per directions of the engineer in charge.
4.7	**Theatre Vacuum units**
a	It must consist of the following: -1no. Suction Regulator and 2nos. 2000ml polycarbonate collection jar and both to be mounted on a trolley.
b	Suction Regulator: Suction regulator should be supplied with a safety jar, including and antibacterial filter and an anti-overflow safety device. Should have wide membrane continuous suction controller.
c	Should have vacuum levels: 0-750 mm Hg or more
d	Should have vacuum gauge fitted with a protective bumper device.
e	Should have on/off knob allowing for the quick restoration of a readjusted vacuum level.
f	A Should have a vacuum regulator with instant ON / OFF switch a three way selector switch with an option to operate either. - Left, Right or Both.
g	Must have central adjustment knob with a color coded for 0 to 760 mm of Hg.
h	Should have polycarbonate 2000ml safety jar, autoclavable at 134º C at 5mins, unbreakable, fitted with an anti-overflow safety device and equipped with a plastic antibacterial filter. It should be totally transparent, to ensure perfect sucked liquid visibility.
i	Jar should be covered under warranty and CMC.
j	All the above items Should be mounted on a Trolley having a free moving castor wheels. With calibration certificates---- etc., complete as per specification with all lead and lift and as per directions of the Engineer-in-charge.
4.8	**Low flow ward vacuum units -**
a	It must consists of the following:-1no of Suction Regulator and 1no of 500 ml polycarbonate collection jar.
b	Suction Regulator: Suction regulator should be supplied with a safety jar, including and antibacterial filter and an anti-overflow safety device. Should have wide membrane continuous suction controller.

c	Should have vacuum gauge fitted with a protective bumper device.
d	Jar should be covered under warranty and CMC.
e	Should have vacuum gauge fitted with a protective bumper device.
f	Should have on/off knob allowing for the quick restoration of a readjusted vacuum level.
g	Should have polycarbonate 500ml safety jar, autoclavable at 134º C at 5mins, unbreakable, fitted with an anti-overflow safety device and equipped with a plastic antibacterial filter. It should be totally transparent, to ensure perfect sucked liquid visibility.
h	Should have vacuum levels: 0-250 mm of Hg.
i	The units shall be clamped to the wall using suitable clamps. With Calibration Certificate's. ---- etc., complete as per specification including clamp fixing as per directions of the engineer in charge.
5	**AGSS (Anesthetic Gas Scavenging System) Plant**
a	Duplex AGSS System with twin stand-alone AGSS pumps of 3phase 1500 LPM Capacity each with built in flow indication and pressure regulation valve.
b	Anesthetic Gas Scavenging System (AGSS) of minimum 1500 LPM as Primary & 1500 LPM as Standby(LPM as mentioned in BOQ),It should be US FDA / European CE Certified with 4 digit notified body number or American ETL/ American UL listed (In-case of NFPA 99c the control panel of Plant must be UL/ETL Listed and Undertaking from manufacturer must be submitted for using the same control panel in the system offered)and should comply with HTM 02-01/ NFPA 99 C/EN/ISO 7396-1. It should be European CE Certified or UL listed under Medical Devices Directive. It shall confirm to ISO 7396-1 / 2007 HTM 02-01 /DIN.
c	The package should consist of duplex rotary vane type vacuum pumps, a control panel with automatic changeover, and mounted on a common base frame.
d	AGSS pump: Each pump should be completely cooled and have absolutely no water requirements.AGSS pump shall operate completely dry permanently lubricated and sealed. The suitable wiring from Ots and Cath Labs to AGSS plant for remote control/suitable reservoir (as aplicable) is the responsibility of the bidder.
e	The duplex control system should conform to International Standards. The Control system should provide automatic changeover from running to reserve with circuit Breaker disconnects for each AGSS pump with external operators, full voltage motor starters with overload protection, control circuit transformers, visual and audible reserve unit alarm with isolated contacts for remote alarm. Should be in duplex format and must be chassis Mounted ready for installation. Duplex system in-line non-return values should allow Individual pump servicing. Active anesthetic gas scavenging systems should be designed to safely remove exhaled aesthetic authorizes Dealer / distributor / suppliers from the operating environment and dispose of them to atmosphere, thus preventing contamination of the operating department and providing a safe and healthy workspace for the personal. AGSS design should be dependent upon flow rate and pressure drop characteristics of the individual components of systems.It is essential that terminal units, remote controls (If required) and pump units work in synchronized manner after connection of workstation to the AGSS System. AGSS Remote Control indicator must be provided for each OT with the system. AGSS Installation should be on as per drawing.
f	Piping, Non-Return-Valves (NRVs), and inlet nozzle should be suitably placed. Connecting hose suitable to fit with anesthesia workstation should be provided.
6	**DISTRIBUTION PIPING**
6.1	**Piping specifications:**
a	Copper pipe should be as per standard BS: EN 13348:2008/ ASTM B819 standards, Solid drawn, seamless, deoxidized, non-arsenical, half hard (hard can be accepted only for sizes 54mm or more), tempered and degreased copper pipe conforming to the standard. All copper pipes should be degreased & delivered capped at both ends. The pipes should be accompanied with manufacturers test certificate for the physical properties & chemical composition.
b	Copper pipe must have reputed third party inspection certificate (Eg. Lloyd's or TUV or SGS).

c	Copper Pipes used should be solid drawn, seamless, Deoxidized phosphorus, non-arsenical, half hard, tempered and degreased, Manufactured as per BS EN 13348: 2008 in either R250 half hard or R290 hard Meeting the requirements as per the Medical grade Copper pipe standards.
d	All copper pipes must BSI Kite mark / LLOYD / SGS / TUV certificates. Certification shall be attached with each batch. Manufacturer shall comply with BS: EN 9001-2000.Batch numbering for traceability must be included on all pipes; Labelling on copper tube Will contain date, time and code of manufacturer, tube size, and temper, manufacturer, Certified notified number.
e	Degreasing of pipe shall be such that there is less than 20mg/m2 (0.20mg/dm2 of hydrocarbons on the degreased surface when tested by method specified by BS EN 13348: 2008.
f	The minimum thickness of copper pipes of 35mm and above outer diameter, should be 1.2mm and the thickness of copper pipes less than 28mm outer diameter, should be 1mm as mentioned in BOQ.
g	Fittings should be made of copper and suitable for a working Pressure of up to 17bar and especially made for brazed socket type connections. All valves shall be pneumatically tested for twice the working pressure and factory degreased for medical gas service.
h	Copper fittings should comply with EN 1254:1 factory degreased and brazing filler metals should comply with EN 1044. Fitting should be degreased, individually packed for medical use.
6.2	**INSTALLATION AND TESTING**
a	Installation of piping shall be carried out with utmost cleanliness. Only pipes, fittings and valves that have been degreased and fittings shall be used at site. Pipe fixing clamps shall be of nonferrous or non-deteriorating plastic suitable for the diameter of the pipe.
b	Inert gas welding technique should be used by passing oxygen Free Nitrogen Gas inside the copper pipes during silver brazing, in order to avoid carbon deposition inside the copper pipes. Only copper-to-copper joints are permitted on site except threaded or flanged joints may be made where pipelines are connected to items such as valves and control equipment. No flux shall be used for joining Copper to Copper joints and on for joints made on site. Copper to copper joints shall be brazed using a 5% silver-copper phosphorous brazing alloy CP104. A total of 5 joints shall be cut out for examination to establish the quality of the joints being made on site. The insides shall be clean and free from oxides and particulate matter and the minimum penetration of the brazing alloy at any point shall be three times the wall thickness of the tube. If the joints examined do not conform to these requirements, then adjacent joints shall be cut out and examined until the extent of faulty workmanship has been made good. Copper-to-brass or gunmetal joints shall only be made under controlled conditions off site. The joints are ordinarily used to join short copper pipe tails to brass, gunmetal or bronze fittings to permit their connection into the pipeline. The sub-assemblies shall be degreased and individually sealed in bags or boxes before delivery to site.
c	Adequate supports should be provided while laying pipelines to ensure that the pipes do not sag. Suitable sleeves shall be provided wherever pipes cross through walls / slabs. All pipe clamps shall be non-reactive to copper.
d	After erection, the pipes are to be flushed with dry nitrogen gas and then pressure tested with dry nitrogen at a pressure equal to twice the working pressure or 150 psig, whichever is higher for a period of not less than 48 hours.
e	Length and quantity of individual items (Copper pipes, AVSUs, Alarm panels, Isolation valves, Outlets, pendants etc.) are mentioned. However quantity will be calculated and paid at actuals. Bidder should quote unit price for all the items as detailed.
f	Maximum interval between supports (Horizontal and Vertical): (12mm Pipe - 1.5m, 15mm pipe - 1.5m, 22mm pipe – 2m, 28mm pipe-2m, 35mm pipe-2.5m, 42mm pipe -2.5m, 54mm pipe - 2.5m, 76mm pipe – 3meter)
6.3	**Painting**
a	All the pipes from manifold/plant upto the outlets should be painted with two coats of synthetic enamel paint and colour codification should be as per standards followed and with consultation with competent authorities of the Institute.
b	Oxygen line.....White. Vacuum line....Yellow. Air line..... Black with white band.

7	**GAS OUTLETS WITH PROBES**
a	Terminal Units (Gas Outlets) with probes/Adaptors for O2, Air (4),Air(7) AGSS, Vacuum & CO2 .
b	The Medical gas outlets shall confirm to HTM 02-01/ NFPA 99 C/EN/DIN/ ISO 7396-1. Front Loading Type Terminal Outlets should be designed to dispense medical gases (or an inlet for medical vacuum) to the secondary equipment (flow meters, Suction regulators, etc.) at the point of use and is gas specific so that secondary devices cannot be "attached" to the wrong gas. When not in use the gas in a non-flowing state within the Outlet (Terminal unit) sealed by "O" ring. The adapter when inserted pushes the poppet inside and the gas starts flowing and sealing is ensured by the "O" ring or a seat. The Outlets are Quick Connect Type and gas specificity is accomplished by "Pin indexing."
c	Push to insert and press-to-release mechanism for probes.
d	Allows plugging of probes from front.
e	Self-sealing valve on disengaging the probe (Quick disconnect).
f	Smooth quite action
g	Non return valve for on line servicing/ repairing
h	Indexed to eliminate inter-changeability of gas services
i	Color-coded gas specific front plate
j	Flow rate as per the requirements of ISO 9170 –1.
k	Totally leak proof, safe & easy to operate
l	Configurations possible: surface, flush & Bead-head.
m	Outlets should be US FDA / European CE Certified with 4 digit notified body number or American ETL/ American UL listed
n	All outlets should have respective labels (i.e.O2 / CO2 / Air4 /Air 7/ Vacuum/AGSS/etc.) displayed accordingly.
o	A maintenance valve in basic block.
p	Low pressure drops at peak flow.
q	The anaesthetic gas scavenging (AGS) terminal unit should conform to BS6834: 1987.
r	Matching probes with one end suitable for Medical Gas Outlet Point & other end suitable for hose. The probe should comply with BS 5682:1998 for gases & Vacuum & BS 6834:1987 for AGSS.
s	It should be compatible with BHU/Pendants and Flush type units.
t	The standard range of Medical Gas Terminal Units and Conversions are 'CE' marked under the Medical Devices Directive 93/42/EEC with approval from notified body no. 0086. Under this directive, the specified products are classified as Class IIa Medical Devices.
8	**Master Plant Alarm**
a	The master alarm management system must comply with the latest international standard ISO 7396-1:2007/ HTM 02 01 certification.
b	The master alarm management system must be certified as per Medical Device Directives (93/42/EEC) having the CE mark/UL Listing along with the four-digit code from the certifying agency.
c	The master alarm management system must be manufactured in a facility certified as per ISO 13485.
d	Each Master Alarm should be modular in design and be fitted with required number of master alarm modules. The master alarms should be capable to monitor minimum 40 Point.
e	Each point represents an alarm condition that the source equipment might have. When an alarm condition exists, a red light flashes and the audible alarm sounds. If several alarm conditions occur simultaneously, the most recent alarm light should flash, while the other alarm lights should remain lit. When an alarm condition is created, an audible alarm should be actuated. A dry contact module should be available to interface with a building management system.

f	Master alarm management system should be designed to display alarm conditions from the source supply units indicating the broad status of the source equipments and manifolds as well as the master distribution status from the source supplies. Depending on the alarm priority, a visual and audible alarm should be initiated to indicate an alarm condition. The display should be in the form of one LED light indicator or flasher on a LCD display, for each of the labeled alarm condition as listed below. It must be possible to freely configure the alarm priorities. Each display of alarm condition must be accompanied with audible alarm as well. There must be facility to mute the audible alarm for short pre-fixed durations by pressing of alarm silence / mite button. There must be facility to test all the display lams on the alarm panel. All the electronic circuits should be mounted inside the cover frame.
g	The master alarm must be able to monitor the following source alarm conditions. Oxygen Primary Source (Liquid Tank) Empty Oxygen Cylinder Bank 1 Empty Oxygen Cylinder Bank 2 Empty Oxygen Emergency Bank Empty Oxygen Line Pressure Faulty (High / Low) Carbon Dioxide Cylinder Bank 1 Empty Carbon Dioxide Cylinder Bank 2 Empty Air Line Pressure Faulty (High / Low) Air Compressor 1 Faulty/Operational Air Compressor 2 Faulty/Operational Vacuum Line Pressure Faulty (High / Low) Vaccum Pump 1 Faulty/Operational Vaccum Pump 2 Faulty/Operational AGSS Pump 1 Faulty/Operational AGSS Pump 2 Faulty/Operational And Other MGPS Signals & Alarms
h	Bidder shall be responsible for all cabling from local alarm panels(OTS, Cath labs,ICUs, General & Step down Wards)to master alarm panel. Bidder should quote unit rate per meter interconnection cost and 1000m will be considered for ranking purpose. Payment will be made at actuals
i	Master alarm should be integrated with BMS/HIS
9	**AREA VALVE SERVICE UNIT WITH AREA ALARM**
a	Area control units for medical gases to fully comply with the standards HTM 02-01/NFPA 99C/EN/DIN/ISO7396-1. other relevant international standards.
b	It Should provide a zone isolation facility for use either in an emergency or for maintenance purpose.
c	The Area Valve Service Unit should incorporate a ball valve with NIST connectors either side mounted in a lockable box with emergency access.
d	It should be reliable and easy to operate and must have NIST connectors facilitate easy purge, sample & pressure testing and emergency supply system.
e	The unit should be pre-piped, wired and tested ready for installation into a finished building. Medical gas/vacuum services should be fixed copper, piped to and from their respective area valve service units
f	A color coded service identity label should be fitted behind the valve handle.
g	The box shall be made from extruded aluminium to prevent corrosion.
h	All wetted parts (except seals and gaskets) should be brass or copper.

i	Emergency alarm signal should be fully integrated and do not need additional installation.
j	Each unit assembly should be factory tested for gas tightness. Rubber pipe grommets should be provided to ensure any leaking gas does not escape from the unit into a wall cavity. All visible aluminum surfaces should be powder coated.
k	Modular Type Valve box along with Nist connection, pressure gauge and Alarm , Top entry & exit connection and concealed type as per HTM 02-01/ NFPA99 standard /EN Standards. BMS Compatible, fully complying with ISO 7396-1:2007 or as per equivalent national standards, as per technical Specifications.
l	Modular type Valve Box for medical gases must be acc. Conforming to EN/ISO7396-1 and HTM 02-01, and should be CE Certified as a class II Medical device under the medical devices directive
m	Valve Box for every gas type must be with separate replaceable ball valve, device for physical separation and NIST-body (acc. to HTM0201 / EN 739) for emergency supply of depended area.
n	The integrated medical gas central alarms should be capable of monitoring medical gas services by means of pressure sensors which detect deviations from the normal operating limits of either pressure or medical vacuum.
o	The area alarm should have a digital display of pressures.
p	The medical gas area alarm should fully satisfy the HTM 02-01/ NFPA 99 C/EN/DIN/ISO 7396-1 requirements and should be US FDA / European CE Certified with 4 digit notified body number or American ETL/ American UL listed.
q	An audible warning should sound simultaneously with any failure indication and a mute facility should be provided.
r	The bidder shall only offer combined unit of AVSU & alarm including valve box, valves, gauges and all accessories. The number of gases for AVSU is mentioned in the BOQ.
s	Line Isolation Valves
t	The Lockable line valves must degreesed and complete valve with stuffed pipe &fittings, factory tested and complies with HTM 02-01/ NFPA 99 C/EN/DIN/ISO 7396-1 standard.
10	**BED HEAD PANELS-HORIZONTAL TYPE**
a	It shall confirm to HTM 02-01/ NFPA 99 C/EN/DIN/ISO 7396-1.
b	Horizontal BHP should be of maximum 1800 mm for 6 Gas outlet configuration, 1500 mm for upto 4 outlets configuration and 1200 mm for 3 Outlet configurations.
c	Efficient, Safe & Robust design in extruded aluminium section.
d	Smooth curved surfaces, and choice of base colour and fascia plates.
e	Unit should have integrated rail system to mount accessories
f	The headwall system should be constructed of aluminium extrusions joined together to form a carcass to suit the particular application. Unit should be factory assembled for electrical and mechanical components.
g	Segregation of services i.e. Low voltage supplies, High Voltage supply and Medical gases should be maintained with 2 tier/2 channel arrangements with built-in LED Lighting/flexible light (with ON/OFF control)
h	Front fascia plate should be removable individually to access for respective service.
i	It should have one rail for mounting Accessories.
j	Each bed-head unit shall be supplied with electrical and electrical outlets pre-fitted, wired and certified.
k	BHU should be electromagnetic interference (EMI) complied.
l	BHU should be tested for Oxygen enrichment test as per ISO-11197.
m	Powder coating Thickness of BHU should be 50 to 70 micron.
n	Distance between Oxidized Gas TU to nearest electrical exposed component is 0.2 m as per ISO 11197 standard
o	roduct must meets IP 2X (Ingress Protection class of 2X means equipment protected in such way that live electrical parts will not get in contact with operator, patient etc.)

p	BHU should be safe and tested for safety against electrical hazards to patient, operator and bystander as specified in ISO 11197.
q	BHU should comply with protection against mechanical hazards of Medical Electrical (ME) equipment as specified in ISO 11197.
r	Quality management system of the organization certified as per ISO 9001 and 13485.
s	Note: Gas Outlets quantities are already taken in consideration of quantities of respective outlets in BOQ. Gas Outlet Configuration:As mentioned in (s),(t) and (u). (a)1.8m Bed Head Unit for ICU and Step Down wards. Oxygen – 2,Vacuum – 2,Medical Air-2 Holder for vacuum collection jar –1,RJ-45 socket/ Ethernet -01, (b)1.2m Bed Head Unit for Paywards and Emergency Room. Oxygen – 1,Vacuum – 1,Medical Air-1Holder for vacuum collection jar –1
t	Cutout shall be provided to accommodate the electrical and data sockets as given in the drawing attached for each type of bed head unit. In addition to cut-outs, 4 No's 5A socket (Honeywell MK make, of the specified colour. Sockets shall match the ones being provided by the existing contractor) shall be in the scope(supply and installation). There shall adequate provision for entry of power and data cable and cutout if any required shall be provided as directed during the shop drawing approval. The agency shall also carry out and coordinate with the existing contractor for electrical and data wiring activities within the bead head unit.
u	BHU layout is attached as annexure.
11	**PENDANTS-DOUBLE ARM AND SINGLE ARM**
	The ceiling pendant systems designed to provide convenient positioning of medical equipment, medical gas terminal units, electrical and specialty services. The ceiling pendants should comply with as per standard. The support arms should be extremely robust and revolve on high quality bearings, so that the pendant head glides smoothly and quickly to any desired position. The Ceiling Pendant Systems designed to provide convenient positioning of medical equipment,
	PENDANT SYSTEMS
	The pendant system shall provide a safe, robust and ergonomic medical workplace solution. The pendants shall be designed to comply with following standards.
	(a) Basic requirement of the medical device directive (MDD 93/42/EEC)
	(b) IEC 60601-1-2/medical electrical devices
	(c) European Norm ISO EN 11197 (special requirements for the safety of medical Supply units)
	(d) Pendent must meet International safety standard CE mark / UL Listing
	(e) The terminal units must be according to ISO 7396-1 and DIN 13260-2 standards.
	(f) A copy of the certificate of country of origin must be provided.
	(g)Medical gas hoses shall be compliant to ISO 5359:2009 colour coded throughout its length.
	It shall be possible to replace all medical gas hoses without the need for onsite crimping of ferrules. All medical gas hoses shall be colour coded to as per our standard. Non-color coded hoses or hoses without permanently crimped connections are not acceptable.
	BEARINGS
	High quality bearings shall be used to provide smooth and free movement, minimizing the force required to overcome static friction forces during repositioning. Bearings shall be permanently lubricated and sealed, with no maintenance or replacement necessary (Documentary proof should be submitted along with Tender document).
	PENDANT ARMS

	Pendant arms other than the cantilever lift arm shall be manufactured from extruded aluminum sections and be available in various lengths. External surfaces of all arms shall be polyester powder coated in a RAL 9002 finish.
	ROTATIONAL CONTROL
	The arms may be fitted with pneumatic brakes or electromechanically breaks to prevent inadvertent movement.
	Arm joints shall be capable of 330° of rotation, with consoles able to rotate up to 330. The range of arms shall be capable of 330 of rotation. Infinitely variable rotational stops shall enable precise of limits travel to be set to ensure maximum freedom of movement, whilst protecting walls and ancillary equipment. The rotational stops shall be dampened such that when limit of travel is reached, sensitive suspended equipment is not subjected to shock or vibration as the kinetic energy is absorbed
	CONSOLES
	Consoles shall be manufactured from extruded hard-anodized aluminum sections, with polyester powder coated (RAL 9002) aluminum fascia plates. Molded impact resistant ABS module boxes shall house auxiliary sockets and other electrical accessories. Consoles shall be available in varying lengths to suit the number of services and equipment supports required.
	CE MARKING
	Pendant Systems are 'CE' marked under the Medical Devices Directive 93/42/EEC
	THE ARM SHOULD BE AVAILABLE AS FOLLOWS:
	Each arm should be capable of 330 degrees of rotation and be fitted with stops which can be easily adjusted to suit the desired mode of operation.
	The arms may be fitted with pneumatic brakes or electromechanically breaks to prevent inadvertent movement.
	The Pendant Service Heads / Column should be modular with 1000mm length or otherwise specified as per BOQ. The heads / column should be capable of accepting a range of shelves, drawers and infusion poles or other accessories. The Pendant Heads / column should support the range of Physiological Monitor Mounting Solutions.
	The Pendant Service Heads / column should be supplied with medical gas terminal units. The medical gas outlets fully comply with ISO 7396-1 and DIN 13260-2 standards. Medical gas hoses fully comply with the standard BS EN 739 and are provided with NIST connectors to this standard.
	All accessories associated with the pendant systems are detailed in the BOQ

PENDANTS - MGPS

Sl.no	Floor	Room Name	Pendants	Medical Gas Outlets						Electrical	Data		
				O2	VAC	MA4	A7	CO2	AGSS	5/15A	RJ45	HDMI	S video
1	Second Floor	NEONATAL CARDIAC SURGERY OT											
		Anesthesia-Double arm	1	2	2	1			1	10	2	1	1
		Surgeon Double Arm	1	1	2	1	1	1		10	2		
		Perfusion	1	2	1	1				6	2		
2		HYBRID CATH/ OT											
		Anesthesia- Double arm	1	2	2	1			1	10	2	1	1
		Surgeon Double Arm	1	1	2	1	1	1		10	2		

		Perfusion	1	2	1	1				6	2		
3		Cardio Cath Lab											
		Anesthesia-Double arm	1	2	2	1			1	10	2	1	1
		Surgeon Double Arm	1	1	2	1	1	1		10	2		
4	Fourth Floor	RADIOLOGY BIPLANE CATH LAB											
		Anesthesia-Double arm	1	2	2	1			1	10	2	1	1
		Surgeon Double Arm	1	1	2	1	1	1		10	2		
5		THORACIC AND VASCULAR OT											
		Anesthesia-Double arm	1	2	2	1			1	10	2	1	1
		Surgeon Double Arm	1	1	2	1	1	1		10	2		
		Perfusion	1	2	1	1				6	2		
6	Fifth Floor	Operation Theatre-1											
		Anesthesia-Double arm	1	2	2	1			1	10	2	1	1
		Surgeon Double Arm	1	1	2	1	1	1		10	2		
6		Operation Theatre-2											
		Anesthesia-Double arm	1	2	2	1			1	10	2	1	1
		Surgeon Double Arm	1	1	2	1	1	1		10	2		
7		Operation Theatre-3											
		Anesthesia-Double arm	1	2	2	1			1	10	2	1	1
		Surgeon Double Arm	1	1	2	1	1	1		10	2		
8		Operation Theatre-4											
		Anesthesia-Double arm	1	2	2	1			1	10	2	1	1
		Surgeon Double Arm	1	1	2	1	1	1		10	2		
9	Sixth Floor	Operation Theatre-1											
		Anesthesia-Double arm	1	2	2	1			1	10	2	1	1
		Surgeon Double Arm	1	1	2	1	1	1		10	2		
		Perfusion	1	2	1	1				6	2		
10		Operation Theatre-2											
		Anesthesia-Double arm	1	2	2	1			1	10	2	1	1
		Surgeon Double Arm	1	1	2	1	1	1		10	2		
		Perfusion	1	2	1	1				6	2		
11		Operation Theatre-3											
		Anesthesia-Double arm	1	2	2	1			1	10	2	1	1
		Surgeon Double Arm	1	1	2	1	1	1		10	2		
		Perfusion	1	2	1	1				6	2		
		TOTAL	**30**	**48**	**54**	**30**	**12**	**12**	**12**				

SERVICE DELIVERY UNITS
BED HEAD UNITS - MGPS

Sl.No	Room name	Room / Bed Qty	O2	MA-4	Vac	AGSS	Electrical	Data/ CMS	Nurse Call	Size of panel and type
							6/13A	RJ45	As per Vendor	
1	**GROUND FLOOR**									
2	CT Scan	1	1	1	1	1	6	2		1.5 Meter Bed Head Unit
3	Emergency ward	2	1	1	1		6	2		1.2 Meter Bed Head Unit
4	Procedure room	1	1	1	1		6	1		1.2 Meter Bed Head Unit
5	**FIRST FLOOR**									
6	Emergency ward	2	1	1	1		6	2		1.2 Meter Bed Head Unit
7	Procedure room	2	1	1	1		6	1		1.2 Meter Bed Head Unit
8	**SECOND FLOOR**									
9	ANESTHESIA INDUCTION ROOM	1	2	1	2	1	8	2		1.8 Meter Bed Head Unit
10	NEONATAL CARDIAC SURGERY ICU- 5 BASSINETS	5	2	2	2		12	2		1.8 Meter Bed Head Unit
11	Pediatric Cardiology ICU Bed	7	2	2	2		12	2		1.8 Meter Bed Head Unit
12	Cardiology ICU Bed	9	2	2	2		12	2		1.8 Meter Bed Head Unit
13	**THIRD FLOOR**									
14	MOVEMENT DISORDER AND STROKE STEP DOWN WARD ICU	10	2	2	2		12	2		1.8 Meter Bed Head Unit
15	EPILEPSY POST OP STEP DOWN WARD	10	2	2	2		12	2		1.8 Meter Bed Head Unit
16	GENERAL NEUROLOGY ICU	11	2	2	2		12	2		1.8 Meter Bed Head Unit
17	STROKE ICU	5	2	2	2		12	2		1.8 Meter Bed Head Unit
18	ISOLATION ICU	4	2	2	2		12	2		1.8 Meter Bed Head Unit
19	**FOURTH FLOOR**									
20	OT PREP ROOM	1	2	1	2	1	8	2		1.8 Meter Bed Head Unit
21	RADIOLOGY ICU-5 BEDS	5	2	2	2		12	2		1.8 Meter Bed Head Unit
22	STEP DOWN CS WARD- 7 BEDS	7	2	2	2		12	2		1.8 Meter Bed Head Unit
23	THORACIC AND VASCULAR ICU 4 BEDS	4	2	2	2		12	2		1.8 Meter Bed Head Unit
24	STEP DOWN NEURO SURGERY WARD	10	2	2	2		12	2		1.8 Meter Bed Head Unit
25	**FIFTH FLOOR**									
26	ANESTHESIA INDUCTION ROOM	1	2	1	2	1	8	2		1.8 Meter Bed Head Unit
27	Mobile CT	1	1	1	1	1	8	2		1.5 Meter Bed Head Unit
28	NEURO SURGERY ICU -1	11	2	2	2		12	2		1.8 Meter Bed Head Unit
29	NEURO SURGERY ICU -2	10	2	2	2		12	2		1.8 Meter Bed Head Unit
30	**SIXTH FLOOR**									
31	ANESTHESIA INDUCTION ROOM	1	2	1	2	1	8	2		1.8 Meter Bed Head Unit
32	CARDIAC SURGERY ICU-1	11	2	2	2		12	2		1.8 Meter Bed Head Unit
33	CARDIAC SURGERY ICU -2	10	2	2	2		12	2		1.8 Meter Bed Head Unit
34	**SEVENTH FLOOR**									
35	IP ROOMS - LEFT BLOCK	19	1	1	1		7	1	1	1.2 Meter Bed Head unit

36	IP ROOMS - RIGHT BLOCK	16	1	1	1		7	1	1	1.2 Meter Bed Head unit
37	IP ROOMS- REAR BLOCK	11	1	1	1		7	1	1	1.2 Meter Bed Head unit

Area Control Units with Alarms and Line Isolation Valves - MGPS

Sl. No.	Room name	ACU ID	2G	3G	4G	5G	6G
I	**LOWER GROUND FLOOR**						
1	CSSD						
II	**GROUND FLOOR**						
1	Left block	ACU-GF-01	**1**				
2	Right block	ACU-GF-02		**1**			
3	Radiology	ACU-GF-03			**1**		
III	**FIRST FLOOR**						
1	Left block	ACU-1F-01		**1**			
2	Right block	ACU-1F-02		**1**			
IV	**SECOND FLOOR**						
1	NEONATAL CARDIAC SURGERY OT	ACU-2F-01					**1**
	OT prep						
2	HYBRID CATH/ OT	ACU-2F-02					**1**
3	Cardio Cath Lab	ACU-2F-03			**1**		
4	NEONATAL CARDIAC SURGERY ICU- 5 BASSINETS	ACU-2F-04					**1**
5	Pediatric Cardiology ICU Bed	ACU-2F-05					**1**
6	Cardiology ICU Bed	ACU-2F-06					**1**
V	**THIRD FLOOR**						
1	MOVEMENT DISORDER AND STROKE STEP DOWN WARD ICU	ACU-3F-01					**1**
2	EPILEPSY POST OP STEP DOWN WARD	ACU-3F-02					**1**
3	GENERAL NEUROLOGY ICU	ACU-3F-03					**1**
4	STROKE ICU	ACU-3F-04					**1**
5	ISOLATION ICU						**1**
6	EEG and associated rooms		**1**				
VI	**FOURTH FLOOR**						
1	RADIOLOGY ICU-5 BEDS	ACU-4F-01					**1**
2	RADIOLOGY BIPLANE CATH LAB	ACU-4F-02			**1**		

3	THORACIC AND VASCULAR OT	ACU-4F-03					1
	OT Prep						
4	STEP DOWN CS WARD- 7 BEDS	ACU-4F-04					1
5	THORACIC AND VASCULAR ICU 4 BEDS	ACU-4F-05					1
6	STEP DOWN NEURO SURGERY WARD	ACU-4F-06					1
VII	**FIFTH FLOOR**						
1	Operation Theatre-1	ACU-5F-01					1
2	Operation Theatre-2	ACU-5F-02					1
3	Operation Theatre-3	ACU-5F-03					1
4	Operation Theatre-4	ACU-5F-04					1
	ANESTHESIA INDUCTION ROOM						
5	NEURO SURGERY ICU 1	ACU-5F-07					1
	Mobile CT						
6	NEURO SURGERY ICU 2	ACU-5F-08					1
VIII	**SIXTH FLOOR**						
1	Operation Theatre-1	ACU-6F-01					1
	ANESTHESIA INDUCTION ROOM						
2	Operation Theatre-2	ACU-6F-02					1
3	Operation Theatre-3	ACU-6F-03					1
4	CARDIAC SURGERY ICU MALE 11 BEDS	ACU-6F-04					1
5	CARDIAC SURGERY ICU FEMALE 10 BEDS	ACU-6F-05					1
IX	**SEVENTH FLOOR**						
1	IP ROOMS - LEFT BLOCK			1			
2	IP ROOMS - RIGHT BLOCK			1			
3	IP ROOMS- REAR BLOCK			1			
TOTAL			**2**	**6**	**3**	**0**	**26**

Line Isolation Valves

Sl. No	FLOOR	76mm	54mm	42mm	35mm	28mm	22mm	15mm
I	LOWER GROUND FLOOR	4	1	1	1	5	5	5
II	GROUND FLOOR					1	3	1
III	FIRST FLOOR						2	
IV	SECOND FLOOR				1	2	2	
V	THIRD FLOOR					3		
VI	FOURTH FLOOR				1	2	2	
VII	FIFTH FLOOR				1	2	4	
VIII	SIXTH FLOOR				1	2	4	
IX	SEVENTH FLOOR				1	1		
TOTAL		4	1	1	6	18	22	6

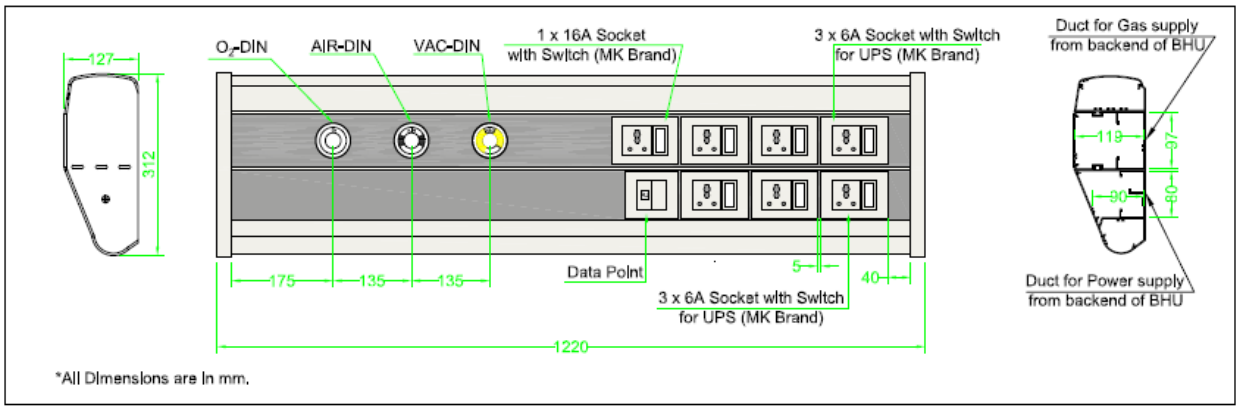
MGPS DISPOSITION TABLE

Sr. No.	Room name	Room / Bed Qty	O2	MA-4	Vac	SA-7	AGSS	CO2	Remark
I	**LOWER GROUND FLOOR**								
1	CSSD	1				0			Conceal Terminal Unit
II	**GROUND FLOOR**								
1	Emergency Ward	2	2	2	2				Bed Head Unit
2	NEURO SURGERY OPD	5	5		5				Conceal Terminal Unit
3	PROCEDURE ROOM	1	1	1	1				Bed Head Unit
4	CT Scan	1	1	1	1		1		Bed Head Unit
5	X Ray Room	1	1		1				Conceal Terminal Unit
6	NEUROLOGY OPD	15	15		15				Conceal Terminal Unit
III	**FIRST FLOOR**								Branch Valve
1	ECHO Room	1	1		1				Conceal Terminal Unit
2	ECG & HOLTER Room	2	2		2				Conceal Terminal Unit
3	Procedure / Observation Room	1	1	1	1				Bed Head Unit
4	TMT Lab	1	1		1				Conceal Terminal Unit
5	Emergency War bed	2	2	2	2				Bed Head Unit
6	Cardiology OPD	8	8		8				Conceal Terminal Unit
7	Procedure Room	1	1	1	1				Bed Head Unit
8	Cardiac Surgery OPD	5	5		5				Conceal Terminal Unit
9	Radiology OPD	1	1		1				Conceal Terminal Unit
10	Cardiology OPD	3	3		3				Conceal Terminal Unit
IV	**SECOND FLOOR**								Branch Valve
1	NEONATAL CARDIAC SURGERY OT	1	5	3	4	1	1	1	Anesthesia + Surgeon +Perfusion Pendant
2	HYBRID CATH/ OT	1	5	3	4	1	1	1	Anesthesia + Surgeon + Perfusion Pendant
3	OT prep room	1	1	1	1		1		Bed Head Unit
4	Cardio Cath Lab	1	2	1	2		1		Anesthesia + Surgeon Pendant
5	NEONATAL CARDIAC SURGERY ICU- 5 BASSINETS	5	10	10	10				Bed Head Unit
6	Pediatric Cardiology ICU Bed	7	14	14	14				Bed Head Unit
7	Cardiology ICU Bed	9	18	18	18				Bed Head Unit
V	**THIRD FLOOR**								Branch Valve
1	MOVEMENT DISORDER AND STROKE STEP DOWN WARD ICU	10	20	20	20				Bed Head Unit
2	EPILEPSY POST OP STEP DOWN WARD	10	20	20	20				Bed Head Unit
3	GENERAL NEUROLOGY ICU	11	22	22	22				Bed Head Unit
4	STROKE ICU	5	10	10	10				Bed Head Unit

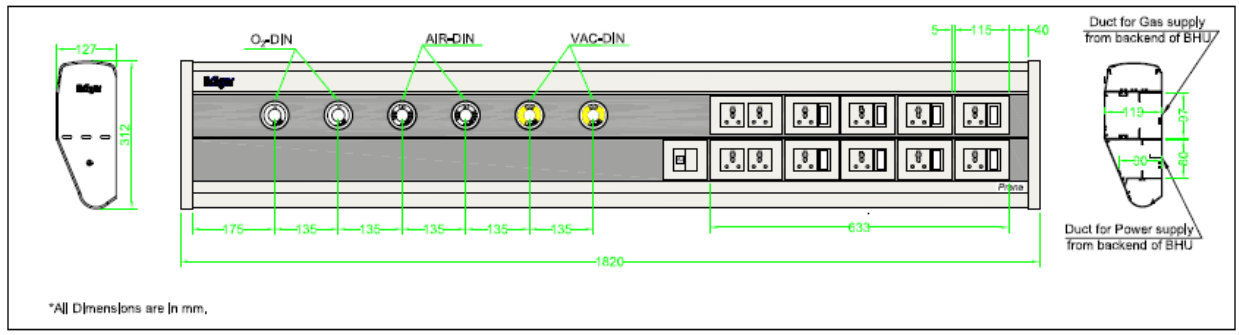
5	ISOLATION ICU	4	8	8	8				Bed Head Unit
6	EEG room	1	1		1				Conceal Terminal Unit
7	EMG room	1	1		1				Conceal Terminal Unit
8	Gait Lab	1	1		1				Conceal Terminal Unit
9	ANS and Neuro Ophthalmology Lab	1	1		1				Conceal Terminal Unit
10	Sleep Study room-1	1	1		1				Conceal Terminal Unit
11	Sleep Study room-2	1	1		1				Conceal Terminal Unit
12	DBS room	1	1		1				Conceal Terminal Unit
13	Botox room	1	1		1				Conceal Terminal Unit
14	Video EEG-1	1	1		1				Conceal Terminal Unit
15	Video EEG-2	1	1		1				Conceal Terminal Unit
16	Video EEG-3	1	1		1				Conceal Terminal Unit
VI	**FOURTH FLOOR**								Branch Valve
1	RADIOLOGY ICU-5 BEDS	5	10	10	10				Bed Head Unit
2	RADIOLOGY BIPLANE CATH LAB	1	2	1	2		1		Anesthesia + Surgeon Pendant
3	THORACIC AND VASCULAR OT	1	5	2	4	1	1	1	Anesthesia + Surgeon +Perfusion Pendant
4	OT prep room	1	1	1	1		1		Bed Head Unit
5	STEP DOWN CS WARD-7 BEDS	7	14	14	14				Bed Head Unit
6	THORACIC AND VASCULAR ICU 4 BEDS	4	8	8	8				Bed Head Unit
7	STEP DOWN NEURO SURGERY WARD	10	20	20	20				Bed Head Unit
VII	**FIFTH FLOOR**								Branch Valve
1	Operation Theatre-1	1	3	2	3	1	1	1	Anesthesia + Surgeon Pendant
2	Operation Theatre-2	1	3	2	3	1	1	1	Anesthesia + Surgeon Pendant
3	Operation Theatre-3	1	3	2	3	1	1	1	Anesthesia + Surgeon Pendant
4	Operation Theatre-4	1	3	2	3	1	1	1	Anesthesia + Surgeon Pendant
5	ANESTHESIA INDUCTION ROOM	1	2	2	2		1		Bed Head Unit
6	Mobile CT	1	1	1	1		1		Bed Head Unit
7	NEURO SURGERY ICU MALE 11 BEDS	10	20	20	20				Bed Head Unit
8	NEURO SURGERY ICU FEMALE 10 BEDS	10	20	20	20				Bed Head Unit
VIII	**SIXTH FLOOR**								Branch Valve
1	Operation Theatre-1	1	5	3	4	1	1	1	Anesthesia + Surgeon +Perfusion Pendant
2	Operation Theatre-2	1	5	3	4	1	1	1	Anesthesia + Surgeon +Perfusion Pendant
3	Operation Theatre-3	1	5	3	4	1	1	1	Anesthesia + Surgeon +Perfusion Pendant
4	ANESTHESIA INDUCTION ROOM	1	2	2	2		1		Bed Head Unit
5	CARDIAC SURGERY ICU MALE 11 BEDS	11	22	22	22				Bed Head Unit
6	CARDIAC SURGERY ICU FEMALE 10 BEDS	10	20	20	20				Bed Head Unit

IX	SEVENTH FLOOR								Branch Valve
1	IP ROOMS - LEFT BLOCK	19	19	19	19				Bed Head unit
2	IP ROOMS - RIGHT BLOCK	16	16	16	16				Bed Head unit
3	IP ROOMS- REAR BLOCK	11	11	11	11				Bed Head unit
X	HIGH SIDE								
1	MANIFOLD ROOM		1	1	1				
2	PLANT ROOM								
3	RISER SHAFT								
TOTAL		253	417	345	411	10	18	10	

(A) 1.2 M Bed Head Panel-Horizontal Type with 3 Gas Outlet configurations with Electrical and Data Points.



(B) 1.8 M Bed Head Panel-Horizontal Type with 6 Gas Outlet configurations with Electrical and Data Points.



12. TESTING, COMMISSIONING AND CERTIFICATION

12.1 General

Tests after completion of installation shall be carried out, documented and certified by the manufacturer.

12.2 General requirements for tests

12.2.1 Except for those tests in which the gas is specified, purging and testing as described in 12.4 shall be carried out with nitrogen, medical air or the specific gas. Medical air should be used for oxygen,oxygen/nitrous oxide mixture, oxygen-enriched air and air pipelines.

12.2.2 Before any testing according to 12.4 is carried out, every terminal unit in a system under test shall be labelled to indicate that the system is under test and the terminal unit shall not be used.

12.2.3 The resolution and the accuracy of all measuring devices used for testing shall be appropriate for the values to be measured.

12.2.4 All measuring devices used for certification shall be calibrated at appropriate intervals.

12.2.5 For extensions and modifications of existing pipeline distribution systems not all the tests listed in 12.3 and 12.4 need to be carried out. The manufacturer shall specify and document which tests shall be carried out.

12.2.6 When the results of a test do not meet the pass criteria, remedial work shall be carried out and previous tests repeated as necessary.

12.3 Inspections and checks before concealment

The following inspections and checks shall be carried out:
a) Inspections of marking and pipeline supports (see 12.5.1);
b) Checks for compliance with design specifications (see 12.5.2).

NOTE1: Some tests for leakage and mechanical integrity can also be carried out before concealment.

12.4 Tests, checks and procedures before use of the system

The following tests and procedures shall be carried out in any order:
a) Tests for leakage and mechanical integrity (see 12.6.1);
b) tests of area shut-off valves for leakage and closure and check for correct zoning and correct identification (see 12.6.2);
c) Test for cross-connection (see 12.6.3);
d) Test for obstruction and flow (see 12.6.4);
e) Checks of terminal units and NIST or DISS connectors for mechanical function, gas specificity and identification (see 12.6.5);
f) Tests or checks of system performance (see 12.6.6);
g) Tests of pressure-relief valves (see 12.6.7);
h) Tests of all sources of supply (see 12.6.8);
i) Tests of monitoring and alarm systems (see 12.6.9);
j) Test for particulate contamination of pipeline distribution systems (see 12.6.10);
k) Tests of quality of medical air produced by air compressor systems (see 12.6.11);
l) Test of quality of air for driving surgical tools produced by air compressor systems (see 12.6.12);
m) Test of quality of medical air produced by proportioning systems (see 12.6.13);
n) Tests of quality of oxygen-enriched air produced by oxygen concentrator systems (see 12.6.14);
o) Filling with specific gas (see 12.6.15);
p) Tests of gas identity (see 12.6.16).

12.5 Requirements for inspections before concealment

12.5.1 Inspection of marking and pipeline supports

Marking shall comply with clause 10.1. The pipeline supports shall comply with clause 3.2.

12.5.2 Check for compliance with design specifications

All items shall be shown to comply with the design specifications (e.g. the sizing of the pipelines, location of terminal units, line-pressure regulators, if fitted, and shut-off valves).

12.6 Requirements for tests and procedures before use of the system

12.6.1 Tests for leakage and mechanical integrity

One of the following combinations of leakage and mechanical integrity tests shall be carried out:

a) Test for mechanical integrity of vacuum pipeline systems (see 12.6.1.1) + Test for leakage into the vacuum pipeline systems (see 12.6.1.2) + Combined tests for leakage andmechanical integrity of compressed medical gas pipeline systems (see 12.6.1.6);

b) Test for mechanical integrity of vacuum pipeline systems (see 12.6.1.1) + Test for leakage into the vacuum pipeline systems (see 12.6.1.2) + Test for mechanical integrity for compressed medical gas systems (see 12.6.1.3) + Test for leakage from the compressed medical gas pipeline systems (see 12.6.1.4);

c) Test for mechanical integrity of vacuum pipeline systems (see 12.6.1.1) + Test for leakage into the vacuum pipeline systems (see 12.6 1.2) + Combined tests for leakage and mechanical integrity of compressed medical gas pipeline systems (see 12.6.1.5) + Test for leakage from the compressed medical gas pipeline systems (see 12.6.1.4).

The pressure drop shall be corrected for variations due to temperature according to the ideal gas laws.

12.6.1.1 Test for mechanical integrity of vacuum pipeline systems

This test can be carried out before concealment or after concealment and before the use of the system. Apply for 5 min a pressure of 500 kPa.The source of test gas shall be disconnected after initial pressurization.It may be preferable to test sections of the system individually, provided that no section is omitted.Check for the integrity of the pipeline distribution system and its components.

12.6.1.2 Test for leakage into the vacuum pipeline systems

This test shall be carried out after concealment and before the use of the system. With the complete system at nominal distribution pressure, with the source of supply isolated and with all other valves open, the pressure increase in the pipeline shall not exceed 20 kPa after 1h.

12.6.1.3 Test for mechanical integrity for compressed medical gas pipeline systems

This test shall be carried out before concealment. Apply for 5 min a pressure of not less than 1.2 times the maximum pressure which could occur under single fault condition in each section of pipeline distribution system. Check for the integrity of the pipeline distribution system and its components. For double-stage distribution systems, line pressure regulators may not be fitted at this stage of installation and may be replaced by suitable connectors. If so, the test pressure for the complete pipeline should be determined, taking into account the maximum pressure which can be applied to the pipeline downstream of the supply system in single fault condition.

12.6.1.4 Test for leakage from the compressed medical gas pipeline systems

This test shall be carried out after concealment and before the use of the system. For single stage pipeline distribution systems, the leakage from the medical gas pipeline system shall be measured from

all portion(s) of the system downstream and upstream of each area shut-off valve with the source of test gas disconnected. For double stage pipeline distribution systems, the leakage from the medical gas pipeline system shall be measured from all portion(s) of the system downstream and upstream of each line pressure regulator with the source of test gas disconnected. The means to allow physical isolation of services shall be used to isolate the sections upstream and downstream of each area shut-off valve (or each line pressure regulator).

In sections downstream of each area shut-off valve (or each line pressure regulator):

−after a test period of 2 to 24 hr. at nominal distribution pressure, the pressure drop shall not exceed 0.4%/h of the test pressure in portions not including flexible hoses in medical supply units;

−after a test period of 2 to 24 hr. at nominal distribution pressure, the pressure drop shall not exceed 0.6%/h of the test pressure in portions including flexible hoses in medical supply units. In sections upstream of each area shut-off valve (or each line pressure regulator):

−after a test period of 2 to 24 hr. at nominal distribution pressure for single stage pipeline Distribution systems or at nominal supply system pressure for double stage pipeline distribution systems the pressure drop shall not exceed 0.025% of the initial test pressure per hour.

12.6.1.5 Combined tests for leakage and mechanical integrity of compressed medical gas Pipeline systems

These tests shall be carried out before concealment. Apply for 5 min a pressure of not less than 2 times the maximum pressure which could occur under single fault condition in each section of pipeline distribution system. Check for the integrity of the pipeline distribution system and its components. For double-stage distribution systems, line pressure regulators may not be fitted at this stage of installation and may be replaced by suitable connectors. If so, the test pressure for the complete pipeline should be determined, taking into account the maximum pressure which can be applied to the pipeline downstream of the supply system in single fault condition. At the same test pressure the pressure drop after a test period of 2 h to 24h shall be less than 0,025 % of the initial test pressure per hour.

12.6.1.6 Combined tests for leakage and mechanical integrity of compressed medical gas Pipeline systems

These tests shall be carried out after concealment and before the use of the system. Mechanical integrity shall be tested for 5 min at a pressure of not less than 2 times the maximum pressure which could occur under single fault condition of each section of the pipeline distribution system. Check for the mechanical integrity of the pipeline distribution system and its components. The leakage shall then be measured from the whole system with the source of test gas disconnected in accordance with 4.6.1.4.

12.6.2 Tests of area shut-off valves for leakage and closure and check for correct zoning and correct identification

12.6.2.1 With the system upstream of each closed area shut-off valve under test at nominal distribution pressure, the downstream line depressurized to 100 kPa and all downstream terminal units closed, the pressure increase downstream of each closed area shut-off valve after 15 min shall not exceed 5 kPa. This test does not apply to vacuum systems.

12.6.2.2 All area shut-off valves shall be checked for correct operation, identification and to show that they control only those terminal units intended by the design.

12.6.3 Test for cross-connection

It shall be proved that there are no cross-connections between pipelines for different gases or vacuum.

12.6.4 Test for obstruction and flow

The pressure change measured at each terminal unit shall not exceed the values specified in Table 4:

Table 4 - Maximum allowable pressure change		
Pipeline system	**Pressure change %**	**Test flowrate**

		l/min
Compressed medical gases other than air or nitrogen for driving surgical tools	-10	40
Air or nitrogen for driving surgical tools	-15	350
Vacuum	15kPa	25
NOTE: During this test, the distribution pressure in the vacuum system is subject to change; therefore an absolute value for the pressure change is appropriate.		

When the test flowrate specified in Table is taken from each terminal unit or NIST or DISS connector in turn. Each pipeline system shall be at its nominal distribution pressure and connected to the test gas supply. All exhaust pipes (e.g. from pressure relief-valves, terminal units for supply and disposal of air or nitrogen for driving surgical tools) shall be checked for obstruction.

12.6.5 Checks of terminal units and NIST or DISS connectors for mechanical function,gas specificity and identification

12.6.5.1 Mechanical function

This test requires that each terminal unit is complete with its fascia plate. It shall be demonstrated, for each terminal unit, that the appropriate gas-specific probe can be inserted, captured and released. If an anti-swivel device is provided, it shall be demonstrated that this retains the probe in the correct orientation. It shall be demonstrated, for each NIST or DISS connector, that the appropriate nipple can be inserted into the body and secured by the nut.

NOTE: This test can be carried out at the same time as the tests described in 12.6.4, 12.6.5.2, 12.6.5.3 and 12.6.16.

12.6.5.2 Gas specificity

It shall be demonstrated for each terminal unit that gas is released only when the correct probe is inserted and captured, that no other type of probe used in the same health care facility can be captured and that no gas is released when any other type of probe used in the same health care facility is inserted. It shall be demonstrated, for each NIST or DISS connector, that only the correct nipple can be inserted into the body and secured by the nut and that no nipple for other gases can be inserted and secured.

NOTE:This test can be carried out at the same time as the tests described in 12.6.4, 12.6.5.1, 12.6.5.3 and 12.6.16.

12.6.5.3 Identification

All terminal units shall be checked for correct identification and labelling.

NOTE: This test can be carried out at the same time as the tests described in 12.6.4, 12.6.5.1,12.6.5.2 and 12.6.16.

12.6.6 Tests or checks of system performance

Each medical gas pipeline system shall be shown to deliver the system design flow at the nominal distribution pressure. It shall be shown using tests, verification of calculation or other suitable methods that whilst the system is delivering the system design flow, the requirements.

12.6.7Tests of pressure-relief valves

The performance of pressure-relief valves shall be in accordance with

- For compressed medical gases other than air or nitrogen for driving surgical tools, the pressure at any terminal unit shall not exceed 1 000 kPa in a single fault condition of any pressure regulator installed within the system. Means for this purpose (e.g. pressure-relief valves) shall be provided. If fitted, pressure relief valves shall comply with 5.2.6 of ISO 7396 – 1:2007. Bursting discs shall not be used for this purpose.

- For air or nitrogen for driving surgical tools the pressure at any terminal unit shall not exceed 2 000 kPa in a single fault condition of any pressure regulator installed within the system. Means for this purpose (e.g. pressure-relief valves) shall be provided. If fitted, pressure-relief valves shall comply with 5.2.6. of ISO 7396 -1:2007. Bursting discs shall not be used for this purpose.

If type-tested and certified pressure-relief valves are fitted, testing after installation is not required. Evidence shall be provided by the manufacturer.

12.6.8 Tests of all sources of supply

Each source of supply shall be verified against its manufacturer's specifications or tested for all specified operating and emergency conditions according to their manuals and the requirements of this part of ISO 7396-1:2007.

12.6.9 Tests of monitoring and alarm systems

The performance of all monitoring and alarm systems shall be tested in all specified operating and emergency conditions according to their manuals and the requirements of this part of ISO 7396-1:2007.

12.6.10 Test for particulate contamination of pipeline distribution system

Pipeline distribution systems for compressed medical gases shall be tested for particulate contamination. The filter shall be free from particulate matter when viewed in good light. Purging procedures may be necessary to meet this requirement.

12.6.11Tests of quality of medical air produced by supply systems with air compressor(s)

Medical air supplied by air compressor systems shall be tested for compliance with International Standards before filling the pipelines.

12.6.12 Tests of quality of air for driving surgical tools produced by supply systems with air compressor(s)

Air for driving surgical tools supplied by dedicated air compressor systems shall be tested for compliance with 5.5.2.3 of ISO 7396-1:2007 before filling the pipelines.

12.6.13 Tests of quality of medical air produced by supply systems with proportioning unit(s)

Synthetic air shall be tested for compliance with 5.5.3.1 of ISO 7396-1:2007 before filling the pipelines

12.6.14 Tests of quality of oxygen-enriched air produced by supply systems with oxygen concentrator(s)

Before filling the pipeline, oxygen-enriched air shall be tested for compliance with ISO 10083:2006.

NOTE: Regional or national regulations which apply to oxygen-enriched air produced by supply system with oxygen concentrator(s) may exist.

12.6.15 Filling with specific gas

Each pipeline distribution system for compressed medical gases shall be filled with and emptied of its specific gas for a sufficient number of times to displace the test gas. Each terminal unit shall be opened in turn to allow the specific gas to fill the pipeline system.

12.6.16 Tests of gas identity

A gas identity check shall be carried out on each terminal unit after filling with its specific gas, using one or more devices so that positive identification of each medical gas is made. This test may include a check for absence of odour.

NOTE: This test can be carried out at the same time as the tests described in 12.6.11, 12.6.4, 12.6.13 and 12.6.14.

12.7 Certification of the systems

12.7.1 Before a medical gas pipeline system is used, it shall be certified in writing to the health care facility that all the requirements of 12.3 and 12.4 have been met. The results of tests showing details of the services and areas tested should be part of the permanent record of the health care facility.

NOTE: The certification can be issued in 2 parts:
Part 1: to cover testing of the requirements of 12.3 and 12.4 up to and including 12.6.10;
Part 2: to cover testing of the requirements of 12.6.11 to 12.6.16 which are carried out aftercompletion of the installation contract but may not be done immediately.

12.7.2 The system manufacturer shall certify that all drawings and manuals have been supplied to the owner or client.

12.7.3 When all tests have been completed satisfactorily, all construction labels, which have been fixed to terminal units, shall be removed.

13. DRAWINGS

The shop drawings accurate and up-to-date drawings of the MGPS showing main Sections andbranches, departments served, control valves, terminal units and alarm systems for each Medical gasservice.
These drawings should be readily available on site for use by any Authorised Person (MGPS), and all Authorised Persons (MGPS) should know their location.Each isolating valve should be individually identified by a unique reference number. The appropriatereference number, corresponding to that shown on the drawings, should be displayed at or on eachisolating valve. The drawing should indicate the type and make of terminal units.
A schematic diagram of the installation should be provided.
When additions or alterations are to be made to existing installations by a contractor, the AuthorisedPerson (MGPS) should provide an adequate number of prints from the master drawing as agreed withthe contractor. On completion of the work, the contractor should return to the Authorised Person (MGPS) at least 3 copy of an amended print, indicating pipework alterations etc. The AuthorisedPerson (MGPS) should arrange for the master MGPS drawing to be updated. In some cases it may bepart of the contract agreement that an amended as-fitted drawing is provided by the contractor tothen replace the original master drawing.

B. GENERAL POINTS:

Electrical supply: All electrically operated equipment must be 415 volts 3 phase or 240 volts single phase, 50 Hz (as applicable) electrical supply. It would be responsibility of the supplier to provide voltage stabilizer, separate dedication power supply line, ground or any other requirement for the proper functioning of the equipment as required by the hospital including extension of power lines.

Manuals

The document shall include all information for proper functioning and operation of the equipment by the user. This shall include, but not limited to the following.

- Physical Description
- Features and Function Operating instructions
- Operational Checkouts and technical procedures
- Illustrations
- Performance characteristics
- Adjustments

Date of Manufacture & Certificate of Origin:

The supplier have to provide proof of Date of manufacture and Certificate of origin to approve the acceptance of the equipment.

1. Warranty:

a) Five years Comprehensive Warranty and CAMC for another Five years are required as per Conditions of Contract of the bidding document. The warranty and CAMC shall be for complete equipment (Including all spares, labour and third party items) and Turnkey Work (if required) from the date of satisfactory installation, commissioning, trial run, handing over and acceptance of the goods by the User Department of the Institute.

b) The warranty charges shall not be quoted separately.

c) All software updates should be provided free of cost during Comprehensive Warranty period.

d) During the Warranty period, desired Uptime of 98% of 365/366 (Leap Year) days (24 hrs), if downtime more than 2%, the warranty period/CAMC period will be extended by double the downtime period. Complaints should be attended properly, maximum within 8 hrs.

e) Equipment should be service supported with spares for a period 10years after warranty.

2. After Sales Service:

After sales service centre should be available at the city of Institution 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 Bidder/Indian Agent. Undertaking by the Principals in the "Manufacturer Authorisation Form" that the spares for the equipment shall be available for at least 10 years after warranty.

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 User Department. Two additional end user training per year during the warranty period.

4. Comprehensive Annual Maintenance Contract (CAMC) of subject equipment:

a) The cost of Comprehensive Annual Maintenance Contract (CAMC) which shall include preventive maintenance including testing & calibration as per technical/service/ operational manual of the

manufacturer, labour and all spares, after satisfactory completion of Warranty period may be quoted for next five years on yearly basis for complete equipment including third party items as per Price Schedule.

b) The cost of CAMC may be quoted along with GST applicable as on the date of Bid Opening. The CAMC rate shall not exceed 5% of the equipment cost with a maximum 5% escalation from the previous year's CAMC charges every year.

c) Cost of CAMC will be added for Ranking/Evaluation purpose.

d) Before commencement of CAMC period, the suppliers shall furnish a Performance Bank Guarantee for 2.5% of the cost of the equipment (as per Proforma given in bidding document) valid till 3 months extra after expiry of entire CAMC period. The Performance Bank Guarantee for CAMC will be applicable in case of equipment cost is more than Rs.10 lakh.

e) All software updates should be provided free of cost during CAMC. In case of failure by the supplier, the Bank Guarantee of CAMC will be forfeited.

f) The payment of CAMC will be made on half yearly basis after satisfactory completion of said period duly certified by end User.

g) During the CAMC period, desired Uptime of 98% of 365/366 (Leap Year) days (24 hrs), if downtime more than 2%, the warranty period/CAMC period will be extended by double the downtime period. Complaints should be attended properly, maximum within 8 hrs.

5. Uptime &Downtime Penalty Clause:

a) The firm should provide uptime guarantee of 98% during warranty period and CAMC period.

b) During the Warranty period and CAMC period, desired Uptime of 98% of 365/366 (Leap Year) days (24 hrs), if downtime more than 2%, the warranty period/CAMC period will be extended by double the downtime period. Complaints should be attended properly, maximum within 8 hrs.

c) In cases where the auxiliary units/ components attached to the main equipment undergo failure, and the main equipment provides uninterrupted services, there shall be separate down time calculation for the auxiliary units/ components. Penalty in such cases shall be at the rate of 0.1% of the annual maintenance contract charges per day.

6. Turnkey Work:

Turnkey Work is to be indicated in the Technical Specification wherever required. The Bidder shall examine the existing site where the equipment is to be installed, in consultation with User Department. The Bidders are required to quote separately for the equipment and Turnkey Work as per Price Schedule. The Turnkey Work costs may be quoted in Indian Rupee and the same will be added for Ranking Purpose.

The Turnkey Work should completely comply with AERB and Electrical inspectorate/CEA requirement, wherever required. On completion of the work, the contractor has to obtain necessary safety/ energization certificate from KSEB/CEA by submitting necessary completion certificates, drawings, equipment details, load details, test results, etc. as required. All costs incurred in preparation of drawings, obtaining such approval/certificates "including all statutory fees etc" are to be borne by the bidder and statutory fees paid can be reimbursed on production of original challan/bill. Liaison with all statutory authorities including KSEB/Electrical Inspectorate/CEA for getting sanction/approval/safety certificate/ power connection including submission of necessary forms to KSEB/ Electrical inspectorate/CEA as required is included in the scope of this work.

SECTION – VIII

QUALIFICATION CRITERIA

1. The bidders must be a manufacturer or their authorized dealers or agents/Indian subsidiaries/direct importers having a place of business in any state of India are eligible to participate in this tender. In case the manufacturer does not quote directly, they may authorize their authorized dealer/agent as per proforma of "Manufacturer Authorization Form" as given in the bidding document to quote and enter into a contractual obligation.

2. The bidder/manufacturer of the equipment offered should be in the business of the supply and installation at least equal number of same/similar equipment meeting major parameters of technical specification for the last THREE calendar years.

3. (a) The manufacturer should have successfully completed at least equal number of the tendered quantity installations of the quoted equipment in Govt./Private institutions/Hospitals in India for the last THREE calendar years. The installations mentioned by the manufacturer must be functional and in support of this, the bidder shall furnish Performance statement in the enclosed Proforma 'A'. The Bidder shall furnish Satisfactory Performance Certificate in respect of above, duly translated in English and duly signed and stamped by the end user alongwith the bid.

   (b) The bids quoted by the authorized dealer/agent of the manufacturer meeting the above criteria 3(a) should have also successfully supplied and installed at least equal number of the tendered quantity installations of the quoted equipment in Govt./Private institutions/Hospitals in India. The installations mentioned by the authorized dealer/agent must be functional and in support of this, the bidder shall furnish Performance statement in the enclosed Proforma 'A'. The Bidder shall furnish Satisfactory Performance Certificate in respect of above, duly signed and stamped by the end user alongwith the bid.

4. The bidder (manufacturer or their authorized agent) should have an average annual financial turnover of ten times the estimated value of the equipment quoted during the last three years.

5. Bids of a firm/company that has been blacklisted/debarred by any other state/central Government organization shall not be entertained.

6. The bidder should submit the manufacturer's production capacity, meeting the quality requirement and delivery schedule requirement of this tender document.

7. Notwithstanding anything stated above, the Institute reserves the right to assess the Bidder's capability and capacity to perform the contract satisfactorily before deciding on award of contract, should circumstances warrant such an assessment in the overall interest of the purchaser.

8. The Purchaser reserves the right to ask for a free demonstration of the quoted equipment after giving reasonable time to the bidder at a pre-determined place acceptable to the purchaser or at site (in case of non-portable and heavy equipment) for technical acceptability as per the bidding document specifications, before the opening of the Price Bid.

PROFORMA 'A'

PROFORMA FOR PERFORMANCE STATEMENT
(For the period of last Three years)

NIB No. : _____

Date of Bid Opening : _____

Name and address of the Bidder : _____

Name and address of the Manufacturer : _____

Order placed by (full address)	Order no. and date ##	Description (Model no.) and quantity of ordered goods.	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 Bid Security.

Name_____

Business Address_____

Signature of Bidder_____

Place: _____ Seal of the Bidder_____

** The documentary proof will be a certificate from the consignee/end user with cross-reference of order no. and date in the certificate duly self-attested by the bidder.

The bidders are requested to submit the latest purchase order copies supplied to AIIMS, PGIMER, JIPMER,RML Hospital, Safdarjung Hospital or any other Institute of National importance or in Govt / Private Institutions / Hospitals in India for the specific model quoted.

SECTION – IX

BID FORM

To
The Director,
Sree Chitra Tirunal Institute for Medical Sciences and Technology,
Medical College P.O, Thiruvananthapuram – 695011, Kerala

Ref. YourTE No. _____due for opening on _____

We, the undersigned have examined the above mentioned bidding document, including amendment/corrigendum (*if any*), the receipt of which is hereby confirmed. We now offer to supply and deliver_____in conformity with your above referred document for the sum as shown in the Price Schedules attached herewith and made part of this bid. If our bid is accepted, we undertake to supply the goods and perform the services as mentioned in the bidding documents, in accordance with the delivery schedule specified in the List of Requirements.

We further confirm that, if our bid is accepted, we shall provide you with a performance security of required amount in an acceptable form in terms of "General Conditions Contract", Section - IV read with modification, if any "Special Conditions of Contract", in Section - V, for due performance of the contract.

We agree to keep our bid valid for acceptance as required in the "General Instruction to Bidders", read with modification, if any in "Special Instructions to Bidders", Section – III or for subsequently extended period, if any, agreed to by us. We also accordingly confirm to abide by this bid up to the aforesaid period and this bid may be accepted any time before the expiry of the aforesaid period. We further confirm that, until a formal contract is executed, this bid 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 bid you may receive against your above-referred advertised tender enquiry.

We confirm that we do not stand deregistered/banned/blacklisted by any Central Govt. Ministries/Departments/Hospitals/Institutes.

We confirm that we fully agree to the terms and conditions specified in above mentioned bidding document, including amendment/ corrigendum if any**.**

"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 bid security."

Name_____

Business Address_____

Place: _____ Signature of Bidder_____

Date: _____ Seal of the Bidder_____

SECTION - X

PRICE SCHEDULE

Price to be filled in the relevant field strictly as per the Price Format provided in the e-tender portal 'www.tenderwizard.com/SCTIMST' under the Schedule No. as per terms of the tender.

SECTION – XI

CHECK LIST

The bidders should furnish specific answers to all the questions/issues mentioned in the Checklist detailed below:

Name of Bidder: _____

Name of Manufacturer: _____

Sl. No.	Activity	Yes/ No/ NA	Bid File Name and Page no.	Remarks
1. a.	Have you enclosed of required amount for the quoted Earnest Money Deposit schedules?			
b.	In case Earnest Money Deposit is furnished in the form of Bank Guarantee, has it been furnished as per standard format of the bidding document?			
c.	In case Bank Guarantee is furnished, have you kept its validity 45 days beyond the validity of Techno Commercial Bid?			
2.a.	Are you exempted for furnishing Earnest Money Deposit being MSE as defined in MSE procurement policy issued by department of MSME.			
b.	If yes, have you enclosed certificate of registration issued by department of MSME.			
c.	Does such certificate clearly mention the quoted item?			
3. a.	Have you enclosed duly filled bid form as per bidding document?			
b.	Have you enclosed Power of Attorney in favour of the signatory?			
4. a.	Have you enclosed clause-by-clause technical compliance statement for the quoted goods vis-à-vis the Technical specifications?			
b.	In case of Technical deviations in the compliance statement, have you identified and marked the deviations?			
5. a.	Have you submitted satisfactory performance certificate as per the Proforma for performance statement given in the bidding document?			
b.	Have you submitted the documentary proof that goods have been functioning Satisfactorily?			
c.	Have you submitted latest purchase order copies?			
6.	Have you submitted Manufacturer's Authorization Certificate as per bidding document?			
7.a.	Have you quoted prices of goods, turnkey (if any), CAMC etc. in the Price Schedule as per bidding document?			
8.	Have you kept validity of 270 days from the Techno Commercial Bid Opening date as per the bidding document?			

Sl. No.	Activity	Yes/ No/ NA	Bid File Name and Page no.	Remarks
9. a.	In case of Indian Bidder, have you furnished GST No.?			
b.	In case of Foreign Bidder, have you furnished GST No. of your Indian Agent?			
10.	Have you intimated the name and full address of your Banker (s) along with your Account Number, IFSC Code etc.?			
11.	Have you furnished documents establishing your eligibility & qualification criteria as per bidding documents?			
12	Have you accepted all the terms and conditions of this bidding document?			
13.	Have you submitted the duly signed copy of **Integrity pact (At Appendix-A) ?**			

N.B.

1. All pages of the Bid should be page numbered and indexed.
2. The Bidder may go through the checklist and ensure that all the documents/confirmations listed above are enclosed in the bid 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 bidder to go through the bidding document to ensure furnishing all required documents in addition to above, if any.

3. Wherever necessary and applicable, the bidders shall enclose certified copy as documentary proof/ evidence to substantiate the corresponding statement.
4. In case a bidders furnishes a wrong or evasive answer against any of the question/issues mentioned in the Checklist, its bids will be liable to be ignored.

Name_____

Business Address_____

Place: _____ Signature of Bidder_____

Date: _____ Seal of the Bidder_____

SECTION – XII

BANK GUARANTEE FORM FOR BID SECURITY

Whereas _____ (Name and address of the Bidder)
(*Hereinafter called the "Bidders"*)
Has submitted its Bid dated _____ for the supply of _____
(Hereinafter called the "Bid")
Against the purchaser's TE No. _____

Know all persons by these presents that we _____ having our registered office at _____
(Hereinaftercalled the "Bank")
Are bound unto The Director, Sree Tirunal Institute For Medical Sciences and Technology, Thiruvananthapuram
(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 Bidder withdraws or amends, impairs or derogates from the bid in any respect within the period of validity of this Bid.
2) If the Bidder having been notified of the acceptance of his Bid by the Purchaser during the period of its validity:-

    a. if the bidder fails or refuses to furnish the performance security for the due performance of the contract or
    b. if the bidder fails or refuses to accept/execute the contract or
    c. if it comes to notice at any time, that the information/documents furnished in its Bid are false or incorrect or 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 more the three conditions, specifying the occurred condition(s).

This guarantee will remain in force upto _____*(insert date of additional forty-five days after Bid validity)* and any demand in respect thereof should reach the Bank not later than the above date.

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

SECTION – XIII

MANUFACTURER'S AUTHORISATION FORM

The Director,
Sree Chitra Tirunal Institute For Medical Sciences and Technology,
Medical College P.O,
Thiruvananthapuram-695011.

Dear Sir/Madam,

Ref: Your TE document No _____ dated _____

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

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

We further confirm that no supplier or firm or individual other than Messrs. _____ (*name and address of the above agent*) is authorised to submit a bid, 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, CAMC as applicable as per clause 15 of the General Conditions of Contract, read with modification, if any, in the Special Conditions of Contract for the goods and services offered for supply by the above firm against this TE document.

We also hereby confirm that we would be responsible for the satisfactory execution of contract placed on the authorized agent and the spares for the equipment shall be available for at least 10 years from the date of supply of equipment.

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

Yours faithfully,

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

Note:

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

SECTION – XIV

BANK GUARANTEE FORM FOR PERFORMANCE SECURITY/CAMC SECURITY

WHEREAS _____ (Name and address of the supplier) (Hereinafter called "the supplier")

has undertaken, in pursuance of Purchase Order/ Contract no_____ dated _____ to supply _____ (*insert description of goods and services*)
(Hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognized 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 _____ (insert *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 will remain in force up to _____*(insert date of additional Ninety days after completion of satisfactorily warranty period in case of Performance Security and additional Ninety days after completion of satisfactorily CAMC period in case of CAMC security)* and any demand in respect thereof should reach the Bank not later than the above date.

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

SECTION – XV

CONTRACT FORM - A

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

The Director,
Sree Chitra Tirunal Institute For Medical Sciences and Technology,
Medical College P.O,
Thiruvananthapuram-695011.

Contract No_____ dated_____

To _____
(*insert name of Supplier with address*)

This is in continuation to this office's Purchase Order No_____ dated _____

1. Name & address of the Supplier: _____
2. TE No : _____and subsequent Amendment No_____, dated_____ (if any), issued by the Purchaser
3. Supplier's Bid No_____ dated_____ and subsequent communication(s) No_____ dated _____ (if any), exchanged between the supplier and the purchaser in connection with this Bidding Document.
4. In addition to this Contract Form, the following documents etc, which are included in the Bidding 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) Bid Form furnished by the supplier;
   (vii) Price Schedule(s) furnished by the supplier in its Bid;
   (viii) Manufacturers' Authorisation Form (if applicable);
   (ix) Purchaser's Purchase Order
   (x) General Points

   Note: The words and expressions used in this contract shall have the same meanings as are respectively assigned to them in the conditions of contract referred to above. Further, the definitions and abbreviations incorporated under clause 1 of Section II – "General Instructions to Bidders" of the Bidding 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 of goods/services	Accounting unit	Quantity to be supplied	Unit Price	Total price	Terms of delivery

Any other additional services (if applicable) and cost thereof: _____
Total value (in figure) _____ (In words) _____

(ii) Delivery schedule:_____

(iii) Details of Performance Security required:_____

(v) Destination and despatch instructions:_____

(vi) Consignee:_____

6. Warranty clause:

7. Payment terms:

_____
(Signature, name and designation of the Purchaser authorised official**)**
For and on behalf of Director, SCTIMST

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 _____
(*Insert Name and address of the supplier*)

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

CONTRACT FORM – B

CONTRACT FORM FOR COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT(CAMC)

Comprehensive Annual Maintenance Contract No._____
Dated_____

Between

The Director,SCTIMST

And

(*insert Name & Address of the Supplier*)

Reference: Contract/ Purchase Order No_____ dated_____ for supply, installation& commissioning, Training and CAMC of goods& services.

In continuation to the above referred Contract/Purchase Order, the Contract of Comprehensive Annual Maintenance Contract is hereby concluded as under: -

1	2	3	4					5	6
Items Sr. No./ RFx no.	Brief description of goods	Quantity (Nos.)	CAMC Cost for Each Unit year wise in Rs					GST Value in Rs (___ %)	Total CAMC Cost for 5 Years with GST (3) X[(4a+4b+4c+4d+4e) + (5)]
			1st	2nd	3rd	4th	5th		
			a	b	c	d	e		

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

b) The CAMC 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 CAMC)

c) The cost of Comprehensive Annual Maintenance Contract (CAMC) which includes preventive maintenance, labour and spares, after satisfactory completion of Warranty period as contained in the above referred contract on yearly basis for complete equipment as per contract including Turnkey Work(if any).

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

e) During CAMC period, the supplier shall visit at consignee's site for preventive maintenance including testing and calibration as per the manufacturer's service/ technical/operational manual. The supplier shall visit consignee site as recommended in the manufacturer's manual, but at least once in 3 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 CAMC period.

g) The Bank Guarantee valid till _____ [(fill the date) 3 months after expiry of entire CAMC 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 XIV of the Bidding Document, along with the signed copy of CAMC within a period of 21 (twenty one) days of start of CAMC failing which the Performance Security (10% of the contract value) submitted shall be en-cashed payable to the Purchaser/Consignee.

h) If there is any lapse in the performance of the CAMC as per contract, the proceeds Annual CAMC Bank Guarantee shall be forfeited and their bad performance will be considered while awarding future contracts.

i) Payment terms: The payment of CAMC will be made against the bills raised by the supplier on six monthly basis after satisfactory completion of said period, duly certified by the concerned User Department. The payment will be made in Indian Rupees.

j) The terms and conditions of the tender document will also form part of this contract.

_____
(Signature, name and designation of Competent Authority**)**

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

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 _____
(*Insert Name and address of the supplier*)

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

Note:- The contract will be prepared on Non-judicial Stamp paper(currently of value of Rs. 200/-).

SECTION – XVI

CONSIGNEE RECEIPT CERTIFICATE

(To be given by consignee's authorized representative)

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

1) Contract/Purchase Order No. & date:_____

2) Supplier's Name:_____

3) Consignee's Name & Address: _____

4) Name of the item supplied:_____

5) Quantity Supplied:_____

6) Date of Receipt by the Consignee:_____

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

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

9) Seal of the Consignee:_____

SECTION – XVII

CONSIGNEE ACCEPTANCE CERTIFICATE

(To be given by consignee's authorized representative)

This is to certify that the goods as detailed below have been received in good conditions along with all the standard and special accessories in accordance with the contract. The same has been installed and accepted.

1) Contract/Purchase Order No. & date:_____

2) Supplier's Name:_____

3) Consignee's Name & Address: _____

4) Name of the item Supplied :_____

5) Quantity Supplied :_____

6) Date of Receipt by the Consignee :_____

7) Date of Installation/Commissioning and Acceptance of Equipment:_____

8) The supplier has fulfilled its contractual obligations satisfactorily

OR

The supplier has failed to fulfill its contractual obligations with regard to the following:

i)
ii)
iii)
iv)

9) The amount of recovery on account of failure of the supplier to meet his contractual obligations is_____ (here indicate the amount).

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

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

12) Seal of the Consignee:_____

APPENDIX-A

INTEGRITY PACT

Between

SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND TECHNOLOGY (SCTIMST)

hereafter referred to as **"The Principal"**

and

.....hereinafter referred to as **"The Bidder/Contractor"**

Preamble

The Principal intends to award, under laid down organizational procedures, contract/s for .....The Principal values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness / transparency in its relations with its Bidder(s) and / or Contractor(s).

In order to achieve these goals, the principal will appoint Independent External Monitors (IEMs)who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1-Commitments of the Principal

(1) The Principal commits itself to take all measures necessary to prevent corruption and to observe and to observe the following principles :-

a. No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand ,take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

b. The Principal will, during the tender process treat all Bidder(s) with equity and reason. The principal will in particular ,before and during the tender process, provide to all Bidders(s) the same information and will not provide to any Bibber(s) confidential /additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution .

c. The principal will exclude from the process all known prejudiced persons.

(2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act, or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions.

Section 2 -Commitments of the Bidder(s) /Contractor(s)

(1) The Bidder(s) /Contractor(s) commit themselves to take all measures necessary to prevent corruption. The Bidder(s) /Contractor(s) commit themselves to observe the following principles during participation in the tender process and during the contract execution.

a. The Bidder(s) /Contractor(s) will not directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to ,in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

b. The Bidder(s) /Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specification, certification ,subsidiary contracts, submission or non-submission of bids or any other actions or restrict competitiveness or to introduce cartelization in the bidding process.

c. The Bidder(s) /Contractor(s) will not commit any offence under the relevant IPC/PC Act; further the Bidder(s) /Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

sd/-

DIRECTOR, SCTIMST BIDDER

d. The Bidder(s) /Contractor(s)of foreign origin shall disclose the name and address of the Agents/representatives in India, if any. Similarly the Bidder(s) /Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals. if any, Further details as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers" shall be disclosed by Bidder(s) /Contractor(s).Further all the payments made to the Indian agent/representative have to be in Indian Rupees only.

e. The Bidder(s) /Contractor(s) will, when presenting their bid, disclose any and all payments made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

f. Bidder(s) /Contractor(s) who have signed the Integrity Pact shall not approach the courts while representing the matter to IEMs and shall wait for their decision in the matter.

(2) The Bidder(s) /Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 -Disqualification from tender process and exclusion from future contracts

If the Bidder(s) /Contractor(s),before award or during execution has committed a transgression through a violation of Section 2,above or in any other form such as to put their reliability or credibility in question, the principal is entitled to disqualify the Bidder(s) /Contractor(s) from the tender process or take action as per the procedure applicable to SCTIMST.

Section 4 -Compensation for Damages

(1) If the principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3,the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/Bid Security.

(2) If the principal has terminated the contact according to Section 3,or of the Principal is entitled to terminate the contract according to Section 3,the Principal shall be entitled to demand and recover from the Contractor liquidated damages of the Contract value or the amount equivalent to performance Bank Guarantee.

Section 5 - previous Transgression

(1) The Bidder declares that no previous transgressions occurred in the last three years with any other company in any country conforming to the anti-corruption approach or with any Public Sector Enterprise in India that could justify his exclusion from the tender process.

(2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action can be taken as per the procedure mentioned in "Guidelines on Banning of business dealings".

Section 6 - Equal Treatment of all Bidders/Contractors/Subcontractors

(1) In case of Sub-contracting, the Principal Contractor shall take the responsibility of the adoption of Integrity Pact by the Sub-contractor.

(2) The Principal will enter into agreements with identical conditions as this one with all Bidders and Contactors.

(3) The principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

sd/-

DIRECTOR, SCTIMST BIDDER

Section 7- Criminal charges against violating Bidder(s) /Contractor(s) /Sub contractor(s)

If the principal obtains knowledge of conduct of a Bidder ,Contractor or Subcontractor ,or of an employee or a representative or an associate of a Bidder ,Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

Section 8 - Independent External Monitor

(1) The Principal appoints competent and credible Independent External Monitor for this pact after approval by Central Vigilance Commission. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
(2) The Monitor is not subject to instructions by the representatives of the parties an performs his /her functions neutrally and independently. The Monitor would have access to all Contract documents, whenever required. It will be obligatory for him/her to treat the information and documents of the Bidders/Contractors as confidential.
(3) The Bidder(s) /Contractor(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal including that provided by the Contractor. The Contractor will also grant the Monitor, upon his/her request and demonstration of a valid interest, unrestricted and unconditional access to their project documentation .The same is applicable to Sub-contractors.
(4) The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/Contractor(s)/Sub-Contractor(s) with confidentiality .The Monitor has also signed declarations on 'Non-Disclosure of Confidential Information' and of 'Absence of Conflict of Interest'. In case of any conflict of interest arising at a later date, the IEM shall rescue himself/herself from that case.
(5) The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
(6) As soon as the Monitor notices, or believes to notice ,a violation of this agreement, he/she will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or to take other relevant action .The Monitor in this regard submit non-binding recommendations. Beyond this ,the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
(7) The Monitor will submit a written report to the DIRECTOR, SCTIMST within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
(8) If the Monitor has reported to the DIRECTOR, SCTIMST a substantiated suspicion of an offence under relevant IPC/PC Act, and the DIRECTOR,SCTIMST has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.
(9) The word **'Monitor'** would include both singular and plural.

Section -9 -Pact Duration

This pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the contract, and for all other Bidders 6 months after the contract has been awarded. Any violation of the same would entail disqualification oft he bidders and exclusion from future business dealings.

If any claim is made/lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/determined by DIRECTOR,SCTIMST.

sd/-
DIRECTOR, SCTIMST BIDDER

Section 10 -Other provisions

(1) This agreement is subject to Indian Law. Place of performance and jurisdiction is the Office of the Principal, ie THIRUVANANTHAPURAM.

(2) Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

(3) if the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

(4) Should one or several provisions oft he agreement turn our to be invalid, the reminder oft his agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

(5) Issues like Warranty/Guarantee etc. shall be outside the purview of IEMs.

(6) In the event of any contradiction between the Integrity Pact and its Annexure, the clause in the Integrity Pact will prevail.

Sd/-
DIRECTOR, SCTIMST.

(For & On behalf of the Principal) (For & On behalf of Bidder/Contractor)

(Office Seal)

Place .....
Date.....

Witness 1: _____
(Name & Address) _____

Witness 1: _____
(Name & Address) _____