अखिल भारतीय आयुर्विज्ञान संस्थान, रायपुर (छत्तीसगढ़)
All India Institute of Medical Sciences, Raipur (Chhattisgarh)
Tatibandh, GE Road,
Raipur-492 099 (CG)
www.aiimsraipur.edu.in

TENDER DOCUMENT

TENDER NO. : AIIMS/RPR/OT/01/2013-14

1. FOR ESTABLISHMENT OFFOUR MODULAR OPERATION THEATRE
2. INSTALLATION OF MANIFOLD FOR O2, AIR, N2O, AND CO2, AND VACUUM, AND LIQUID O2 PALNT
3. RUNNING, MANNING AND MAINTENANCE OF MANIFOLD AND GAS PLANT
4. GAS SUPPLY FOR ONE YEAR ON TURN KEY BASIS AT AIIMS RAIPUR
5. WARRANTY ON SUPPLIED EQUIPMENT FOR 5 YEARS.
6. AMC/CMC FOR 5 YEARS.

CONTRACT DOCUMENT CONSISTING OF TENDER NOTICE, TENDER FORM, RATE SHEET, TENDER CONDITIONS, SPECIFICATIONS AND TECHNICAL PARTICULARS, FORM OF AGREEMENT ETC.

ISSUING AUTHORITY
DIRECTOR, AIIMS, RAIPUR

INDEX

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NATIONAL COMPETITIVE BIDDING FOR ESTABLISHMENT OF 4 NOS MODULAR OPERATION THEATRE, MMEDICAL GASES AT AIIMS, RAIPUR UNDER RATE CONTRACT

BID REFERENCE : AIIMS/RPR/OT/2013-14.

PRE BID MEETING : 12.07.2013 AT 11:00 AM

Key Dates : Single Submission MultiOpening With Prequalification

Seq No	DME Stage	Start Date & Time
1	Tender Preparation and Release of NIT	01.07.2013
2	Pre Bid Meeting	12.07.2013 11:00
3	Close for Bidding – Submission of Tender	30-07-2013 15:00
4	Open EMD & Technical / PQ bid	30-07-2013 15:30

Last date for submission of original EMD and other relevant documents is 30-07-2013 upto 15:00 pm. All key dates are tentative and subject to be changed as per procurer requirement, all the information regarding this will be floated on http://aiimsraipur.edu.in portal and http://tenders.gov.in .

ADDRESS FOR SUBMISSION OF PHYSICAL TENDER DOCUMENTS

Deputy Director (Administration)
All India Institute of Medical Science
Tatibandh, GE Road,
Raipur (CG) 492099
Tel – 0771 25 73 222
E-mail:- dda@aiimsraipur.edu.in

Note: Tender can ONLY be downloaded from the website "http://aiimsraipur.edu.in and "http://tenders.gov.in .

Cost of tender form in the form of DD of Rs.8,000/- in the name of AIIMS, Raipur, payable at Raipur (C.G.) should be submitted in a separate Envelope marked "Tender Fee" along with physical documents, failing which the tender will be rejected.

SECTION I :

INVITATION FOR BIDS (IFB)

SECTION I : INVITATION FOR BIDS (IFB)

Date : 01.07.2013 **IFB No.: AIIMS/RPR/OT/2013-14/1**

1. For the requirement of AIIMS Raipur, Director AIIMS, Raipur now invite bids from eligible bidders for supply of Equipments For Modular Operation Theatre along with Medical Gases on Turn-Key basis under Rate Contract with 5 years warranty alongwith AMC/CMC.
2. Bids may be submitted by the primary manufacturer or their authorized distributor or importer for and on behalf of the primary manufacturer provided the bid is accompanied by a duly notarized letter of authority from the primary manufacturer.
3. Price of bidding document
   (Non refundable DD) : Rs. 8,000/-
   (D.D. in favour of AIIMS, Raipur, payable at Raipur (C.G.))

   i. Bid Security :
   Fixed Deposit for 12 Months as bid security which shall be Rs. 30.00 Lakh (Rs. Thirty Lakhs only) tendered for as E.M.D. issued by Nationalized bank in the name of the AIIMS, Raipur, payable at Raipur (refundable).

   (E.M.D. in the form of F.D.R./DD only)

   ii. Pre Bid Meeting : 12.07.2013
   iii. Specification :
   Equipments For Establishment of 4 Nos Modular Operation Theatre along with Medical Gases on Turn key basis along with AMC and CMC of the installed equipment
   iv. Eligibility Criteria of Bidders : As per Clause 13 of ITB
   v. Specifaction : As per Page 73
   vi. Last date and time for submission of bids : 30-07-2013 15:00 PM
   vii. Date and time of opening of Bid : 30-07-2013 15:30 PM
   viii. Address of communication: : Deputy Director (Administration)
   All India Institute of Medical Science
   Tatibandh, GE Road,
   Raipur (CG) 492099
   Tel – 0771 25 73 222
   E-mail:- dda@aiimsraipur.edu.in
4. Bid and bid security as specified in the bid document must be delivered as per prescribed format for physical submission specified in notice and tender document.
   Bids will be opened in the presence of Bidder's representatives who choose to attend on the specified date and time fixed for opening the bid.
5. In the event of the date specified for bid receipt/opening being declared as closed / holiday, due date for receipt/opening of bid will be done on next working day.
6. Bid alongwith supporting documents along with original EMD and cost of tender form have to be submitted by tenderer in the tender box at AIIMS Raipur on or before the last date & time of submission as mentioned above.
7. Time of Completion of work is within **10 weeks** from the date of allotment letter.
8. The competent authority does not bind itself to accept the lowest or any other tender and reserves its right to reject one or all of the tenders received without the assignment of a reason.

Deputy Director (Administration)
All India Institute of Medical Science
Tatibandh, GE Road,
Raipur (CG) 492099
Tel – 0771 25 73 222
E-mail:- dda@aiimsraipur.edu.in

SECTION II :

INSTRUCTIONS TO BIDDER (ITB)

SECTION II: INSTRUCTIONS TO BIDDER TABLE OF CLAUSES

A. Introduction

1. Scope of Work

AIIMS, RAIPUR, requires Equipments For Establishment of 4 Nos Modular Operation Theatre along with Medical Gases on Turn key basis along with AMC and CMC of the installed equipment. Bid is issued for procurement of Equipments for Establishment of Modular Operation Theatre at competitive rates. After finalization of the bid, the contract will be awarded to successful bidders for supply of the items.

2. Eligible Bidders

2.1 This invitation for Bids is open to all eligible bidders as defined in GCC 13 of ITB..

2.2 Bidders should not be associated, or have been associated in the past, directly or indirectly with a firm or any of its affiliates which have been engaged by the Rate Contracting Authority to provide consulting services for the preparation of the design, specifications and other documents to be used for the procurement of the goods to the Rate Contracting Authority under this Invitation of Bids.

2.3 Government owned enterprises of India may participate only if they are legally and financially autonomous, if they operate under commercial law and if they are not a dependent agency of the AIIMS Raipur.

2.4 The tenderers shall clarify/state whether he/they are manufacturer, accredited agent or sole representative indicating principals name & address. The offers of firms who are not manufacturer or direct authorized agent will be summarily rejected. Sub-distributors will not be accepted.

3. Eligible Goods and Services

3.1 All goods and ancillary services to be supplied under the Contract shall specify their country of origin.

3.2 For purposes of this clause, "origin" means the place where the goods are mined, grown, or produced or from which the ancillary services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembling of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.

3.3 The origin of goods and services is distinct from the nationality of the Bidder.

4. Cost of Bidding

4.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and **Deputy Director (Administration) AIIMS, Raipur** hereinafter referred to as "**The Rate Contracting Authority**" will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

B. The Bidding Documents

5. Contents of Bidding Documents

5.1 The goods required, bidding procedures and contract terms are prescribed in the Bidding Documents. In addition to the Invitation for Bids, the Bidding Documents include:

a. Instructions to Bidders (ITB);
b. General Conditions of Contract (GCC);
c. Special Conditions of Contact (SCC);
d. Bid Form;
e. Annexure-I (Sales Tax Clearance Certificate);
f. Annexure-II (Manufacturer Authorization Form);
g. Annexure-III (Declaration / Undertaking Form);
h. Annexure-IV (Proforma for Performance Statement);
i. Annexure-V (Annual Turnover Statement);
j. Annexure-VI (Specifications of required equipments for MODULAR OPERATION THEATRE);
k. Annexure-VII (Performance Security Form);
l. Annexure-VIII (Contract Agreement Form);
m. Annexure-IX (Details of Manufacturing Unit);
n. Annexure-X (Price Schedule);
o. Annexure-X-A (Comparative Price Schedule);
p. Annexure-XI (Price Schedule for AMC (without spare parts) / CMC (include free labour, repair, other services & spare parts); and
q. Annexure-XII (Detail of Service Centre);
r. Annexure-XIII (Check List)

5.2 The Bidder is expected to examine all instructions, forms, terms, specifications and annexure in the Bidding Documents. Failure to furnish all information required by the Bidding Documents or submission of a bid not substantially responsive to the Bidding Documents in every respect will be at the Bidder's risk and may result in rejection of its bid.

5.3 The biding document is not transferable**.**

6. Clarification of Bidding Documents

6.1 If wishes, a prospective Bidder requiring any clarification of the Bidding Documents shall contact the Rate Contracting Authority in writing at the Rate Contracting Authority's mailing address indicated in the invitation for Bids. The Rate Contracting Authority will respond in writing to any request for clarification of the Bidding Documents, which he/she receives not later than 15 days prior to the deadline fixed for submission of Bids and prescribed by the Rate Contracting Authority. Any correspondence with Rate Contracting Authority seeking any clarification regarding any matter contained herein shall not compel the Rate Contracting Authority to suspend the implementation of provision given hereunder or shall not mean a promise to change any provision in this tender document.

7. Amendment of Bidding Documents

7.1 At any time prior to the deadline fixed for submission of bids, the Rate Contracting Authority may, for any justifiable reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by amendment.

7.2 Any addendum issued shall be part of Bidding Documents and all the prospective bidders will be notified of the amendment by post or publication, and will be binding on them. The same shall be uploaded on the designated website.

8.3 In order to allow reasonable time to prospective bidders in which to take the amendment into account in preparing their bids or for any other reason, the Rate Contracting Authority at its discretion, may extend the deadline for the submission of bids.

C. Preparation of Bids

8. Language of Bid

8.1 The Bid prepared by the Bidder, as well as all correspondence and documents, printed literature and leaflets relating to the bid exchanged by the Bidder and the Rate Contracting Authority shall be written in English or Hindi language.

9. Documents comprising the Bid

9.1 The bid prepared by the Bidder shall comprise the following components:

a. A Bid Form and Price Schedule completed in accordance with ITB Clause 10, 11 and 12; **tender form instruments should be submitting in hardcopies.**

b. Documentary evidence established in accordance with ITB Clause 14 that the goods and services to be supplied by the Bidder are eligible goods and services and conform to the Bidding Documents; and

c. Bid Security furnished in accordance with ITB Clause 15.

The Bidders shall submit their Earnest Money Deposit as usual in a physically sealed **Earnest Money Deposit** Envelope.

10. Bid Form

10.1 The Bidder shall complete the Bid Form and shall also submit a hard copy thereof. The signing of Bid Form shall commit the Bidder to supply the ordered goods to the purchaser within **10 weeks** of placing such order.

11. Bid Prices

11.1 Bid has been called for the equipments/machines/service/goods given in the specification in Technical Annexure VI. The specifications of the equipments/machines should be brand new unit as per details given in Annexure-VI.

11.2 Prices (inclusive of Excise Duty / Custom Duty, transportation, packing, insurance, installation, loading-unloading, warranty, inspection, and any incidental charges, CST/VAT/ST) should be quoted for each of the required equipments/services etc, separately on door delivery basis according to the unit ordered. Tender for the supply of equipments etc. with cross conditions like "AT CURRENT MARKET RATES" shall not be accepted. The delivery should be made as stipulated in the supply order placed with successful bidders. Conditional tenders will not be accepted. Different component of the price such base price and statuory taxes like Excise Duty / Custom Duty CST/VAT/Service Tax must be shown separately.

11.3 Each bid must contain the unit price of each equipment in figures as well as words. Any discrepancy between the figures and words, the amount written in words will prevail. The tenderers should take care that the rates and amounts are written in such a way that interpolation is not possible, no blanks should be left which would otherwise, make the tender redundant.

11.4 The price quoted by the bidders shall not, in any case exceed the controlled price, if any, fixed by the Central/State Government and the Maximum Retail Price (MRP). Director AIIMS at its discretion, will exercise, the right to revise the price at any stage, on lower side so as to confirm to the controlled price or MRP as the case may be. This discretion will be exercised without prejudice to any other action that may be taken against the bidder.

11.5 To ensure sustained supply without any interruption the Purchasing Authority, reserves the right to split orders for supplying the requirements among more than one bidder, provided the prices and other conditions of supply are equal.

11.6 The prices quoted and accepted will be binding on the bidder for the stipulated period (as per para I of introduction and any increase in the price will not be entertained till the completion of this tender period or till further orders. Cross Conditions such as "SUBJECT TO AVAILABILITY" "SUPPLIES WILL BE MADE AS AND WHEN SUPPLIES ARE RECEIVED" etc., will not be considered under any circumstances and the tenders of those who have given such conditions shall be treated as unresponsive and Tender will be summarily rejected.

12. Bid Currencies

12.1 Prices shall be quoted in **Indian Rupees.**

13. Documents establishing Bidder's eligibility and qualifications

13.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, documents establishing the bidder's eligibility to bid and its qualifications to perform the Contract if its bid is accepted.

13.2 The documentary evidence of the Bidder's eligibility to bid shall establish to the Rate Contracting Authority's satisfaction.

13.3 The documentary evidence of the Bidder's qualifications to perform the Contract if its bid is accepted, shall establish to the Rate Contracting Authority's satisfactions:

a. Bids may be submitted by the primary manufacturer or their authorized distributor or importer for and on behalf of the primary manufacturer provided the bid is accompanied by a duly notarized letter of authority from the primary manufacturer. In case of authorized distributor the bidder should have minimum three years association with manufacturer. (as per authorization form given in Annexure II).

b. Documentary evidence for the Registration of the company with details of the Name, Address, Telephone Number, Fax Number, e-mail address of the firm and of the Managing Director / Partners / Proprietor and Name, Address, Telephone number, fax, e-mail of primary manufacturer.

c. The bidder shall submit printed original catalogues of primary manufacturer and any other technical documents like data sheet or operational manual of equipment with highlighting the features in portal along with the other documents. In catalogue, the quoted product no. and name should be highlighted and item code should also be written with catalogue, against which that product is quoted. These documents are also to be submitted in physical form before due date along with Bid security. Specification of equipments supplied should match the specification in catalogue.

d. The instruments such as power of attorney, resolution of board etc., authorizing an officer/person of the bidder should be submitted with the tender and such Authorized officer/person of the bidder should sign the tender documents.

e. Authorization letter nominating a responsible person of the bidder to transact the business with the Rate Contracting Authority.

f. The Bidder/manufacturer should have atleast three years manufacturing / distributorship experience. The Bidder should submit a list of users of quoted equipments manufactured by the Principal Manufacturer for last three years. These list should also contain the supplies related to the Govt. hospital / Medical

Colleges / Public Sector undertaking / Undertaking hospital and other institutions of repute. Bidder should submit details of installation in Annexure IV.

g. The bidder should have at least one service centre in Raipur, with a team of trained service engineer/technical staff the details in this regard as per Annexure-XII shall be submitted. In case at the time of tender service centre is not available in Raipur, then he shall submit undertaking to establish the service centre before the award of contract. It shall be the duty of the seller to collect the equipment for repair / service & to replace it after such repair / servicing free of charge during warranty / guarantee period and will cover all such costs in the AMC / CMC.

h. The bidder shall submit the specification's compliance / deviation report duly filled and signed which clearly bring out the deviation from the specification if any given in Annexure-VI.

i. Sales Tax/VAT/CST Clearance certificate, as on 31.03.2010 / 31.03.2011 / 31.03.2012 (as per form attached in Annexure-I).

j. Details of Manufacturing Unit/ Authorized distributor in Annexure – IX. The details containing the name and address of the premises where the items quoted are actually manufactured.

k. Documents, if any, to show that the manufacturing unit/importer has been recognized, by WHO, UNICEF, ISO or any other Certificate etc.

l. The bidder shall furnish a notarized affidavit in the format given in Annexure-III declaring that the bidder accepts all terms and conditions of the tender.

m. Average Annual turnover (i.e. turnover for each year separately) in the last three financial years shall not be less than **Rs. Five Crore**. Annual turnover statement for 3 years submitted in the format given in Annexure-V certified by the Auditor/CA.

n. In case of imported equipment IEC certificate of importer / bidder shall be submitted.

o. The bidder should also submit national and international quality certificates like ISI/CE/C"mark/IEC standard or equivalent certificate of quoted product, if available.

p. The Concern / Company should have not been debarred / blacklisted either by Rate Contracting Authority or by any State Government or Central Government Organization for the quoted product or as a whole. Affidavit to this effect shall be submitted by the concern / company.

q. Leaflets, literatures, should invariably be attached for ready reference clearly marking the item code no.

r. All documents should be **self attested and stamped**. The onus of establishing the credentials of the Tender(s) from the office records or otherwise doesn't lie with AIIMS Raipur. Tender will be evaluated only from the Certificates/documemnts submitted along with the tender.

13.4 The work done by the applicant company in India whether private or Government sector will only be considered for evaluation process.

13.5 The company engaged in Modular Operation Theatre manufacturing should have minimum three years of market standing, in India. Relevant evidentiary documents should be submitted in support thereof.

13.6 The applicant company should have exposure to complete project of manufacturing / installation / fixing of Modular Operation Theatre work at **at-least 3** Government / Non Government Medical College / Medical University / Hospitals over the past 3 years in India.

13.7 No Bidder / Tenderer should submit two or more authorization letters from the manufacturer for the same projects / tender/product.

14. Documents establishing Goods Eligibility and Conformity to Bidding Documents

14.1 Pursuant to Clause 9, the Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the Bidding Documents of all goods and services, which the Bidder proposes to supply under the Contract.

15. Bid Security

15.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, the bid security which shall be Rs. 30.00 Lakhs (Rs. Thirty Lakhs). DD/F.D.R. should be attached.

15.2 The bid security is required to protect the Rate Contracting Authority against risk of Bidder's business conduct which would warrant the security's forfeiture, pursuant to ITB clause 15.7.

15.3 The bid security shall be in Indian Rupees and shall be in form of Fixed Deposit/DD for 12 months in favour of AIIMS, Raipur.

15.4 Any bid not secured in accordance with ITB Clause 15.1 and 15.3 above will be rejected by the Rate Contracting Authority as non-responsive, pursuant to ITB Clause 23.

15.5 Unsuccessful Bidder's bid security will be discharged / returned as promptly as possible upon the successful Bidders signing the Contract, pursuant to ITB Clause 31 or after the expiration of the period of bid validity prescribed by the Rate Contracting Authority pursuant to ITB Clause 16.

15.6 The successful Bidder's bid security will be discharged upon the Bidders signing the Contract, pursuant to ITB Clause 31, and furnishing the performance security, pursuant to ITB Clause 32.

15.7 **The bid security may be forfeited**:

a. If a bidder
(i) withdraws its bid during the period of bid validity specified by the Bidder on the Bid Form;

b. In case of a successful Bidder, if the Bidder fails:
(i) to sign the Contract in accordance with ITB Clause 31; or
(ii) to furnish performance security and Inspection Charges in accordance with ITB Clause 32.

16. Period of Validity of Bids

16.1 Quoted Prices of Bids shall be valid for at least 180 (One hundred eighty) days after the date of bid opening prescribed by the Rate Contracting Authority pursuant to ITB clause 21. A bid valid for a shorter period shall be rejected by the Rate Contracting Authority as non-responsive. This price on acceptance shall remain fixed till contract period or till further order.

16.2 In exceptional circumstances, the Rate Contracting Authority may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. A Bidder may refuse the request without forfeiting its bid security. A bidder granting the request will not be required nor permitted to modify its bid.

16.3 No bid may be modified subsequent to the deadline for submission of Bids.

16.4 No Bid may be withdrawn in the interval between the deadline for the submission of Bids and expiration of the period of bid validity specified by the Bidder on the Bid Form. Withdrawal of a bid during this interval may result in the Bidders forfeiture of its bid security pursuant to ITB Sub-clause 15.7.

D. Submission of Bids

17. Bid Stages

17.1 Bid should be submitted in following system and should furnish the following documents failing which their bid shall not be accepted:-

Envelope – A: Tender fee and E.M.D.

(Tender fee in the form of D.D. only)

(1) The Bidders shall submit their Tender fee Rs.8,000/- in form of a Demand Draft in the name of "AIIMS, RAIPUR" payble at Raipur in a separate physically sealed Envelope clearly marked **"Tender Fee"**and the same should reach the concerned office as stated in the Notice Inviting Tender along with Tender.

(E.M.D. in the form of F.D.R./DD only)

(2) The Bidders shall submit their Earnest Money Deposit as usual in a separate physically sealed Envelope. Fixed Deposit for 12 Months as bid security which shall be Rs. 30.00 Lakh (Rs. Thirty Lakhs only) tendered for as E.M.D. issued by Nationalized bank in the name of the AIIMS, Raipur, payable at Raipur (refundable).

- **Without submission of E.M.D. the tender will be summarily rejected as per rules.**
- **In no case the tender cost fee should be mixed with E.M.D. amount. Fee cost is not refundable.**

Envelop – B: (Technical Bid)

(i) Technical bid should be submitted in hard copies as well as with two additional self certified copies (total 3 copies) for the quoted equipments etc. should be signed and stamped on each page. (ANNEXURE-VI). The bidder shall submit the specification's compliance / deviation report duly filled and signed which clearly bring out the deviation from the specification if any given in Annexure-VI. Format of technical bid is available in tender document and same should be submitted in hard copy by the bidder in Envelope B.

(ii) List of name and address where supply of the quoted equipments has been made.

(iii) Literature of original catalogue of the product attached for reference.

(iv) Guarantee / warrantee.

(v) Sales Tax/VAT/CST Clearance certificate, as on 31.03.2010, 31.03.11, 31.03.12 (as per form attached in Annexure-I).

(vi) Annexure-II (Manufacturer Authorization Form)

(vii) Annexure-III (Undertaking Form / Declaration Form)

(viii) Annexure-IV (Proforma for Performance Statement). A list of user of quoted equipments by the Principal Manufacturer for last three years. These list should also contain the supplies related to the Govt. hospital / Medical Colleges / Public Sector undertaking / Undertaking hospital and other institutions of repute. Bidder should submit details of installation in Annexure IV.

(ix) Annexure-V (Annual Turnover Statement)

(x) Annexure – IX (Details of Manufacturing Unit)

(xi) Annexure – XII (Details of Service Centre in Raipur)

(xii) Registration Certificate of the company with details of the Name, Address, Telephone Number, Fax Number, e-mail address of the firm and of the Managing Director / Partners / Proprietor.

(xiii) Authorization letter from manufacturer authorizing a person to transact a business with R.C.A.

(xiv) The instruments such as power of attorney, resolution of board etc., authorizing an officer/person of the bidder should be submitted with the tender and such Authorized officer/person of the bidder should sign the tender documents.

(xv) Market Standing Certificate issued by the Licensing Authority as a Manufacturer / distributor for each equipment quoted for the last 3 years. In case of direct importer, evidence for importing the said items for the last three years.

(xvi) The bidder should also submit national & international quality certificates like ISI/CE/C ISO-9002, IP/BP etc" mark / IEC standard or equivalent certificate of quoted product, if available.

(xvii) Concern / Company have not been debarred / blacklisted either by Rate Contracting Authority or by any State Government or Central Government Organization. Affidavit to this effect shall be submitted by the concern / company.

(xviii) Original price Bid and other Form duly signed and stamped by authorized signatory and physical document as per Section V, duly sealed and signed by the bidder on each page for acceptance of Terms and Conditions.

(xix) Bidders should have the registration under Commercial Tax Authority, Registration should be attached.

(xx) Affidavit that the firm has no vigilance case / CBI case pending against him / supplier.

(xxi) Affidavit that the firm has not supplied the same item at the lower rate than quoted in the tender to any Govt. / Semi Govt. or any other organization.

(xxii) Certificate for being in business or more than 3 years.

(xxiii) Certificate for sole ownership / partnership and establishment relationship.

(xxiv) The printed original catalogues of primary manufacturer and any other technical documents like data sheet or operational manual of equipment with highlighting the features in portal along with the other documents. In catalogue, the quoted product no. and name should be highlighted, against which that product is quoted. These documents are also to be submitted in physical form before due date along with Bid security.

(xxv) In case of imported equipment IEC certificate of importer / bidder shall be submitted.

(xxvi) A separate price list of all **spares and accessories (including minor)** required for maintenance and repairs in future after guarantee / warrantee period.

(xxvii) Recurring expenditure on equipments.

All envelops sealed in main envelop i.e. marked **ENVELOP–D "TENDER FOR ESTABLISHMENT OF MODULAR OPERATION THEATRE AND MEDICAL GASES FOR AIIMS RAIPUR.**" *All the envelopes **A, B, C, D** must be sealed using Paper Tape and official seal, moisture free and strong. All the enclosures and photocopies should be self certified and stamped.*

i. Reference No. of the tender _____
ii. Tender regarding _____
iii. Due date of submission of tender form _____
iv. Due date for opening of the tender _____
v. Name of the firm _____

NOTE : TENDER SUBMITTED WITHOUT FOLLOWING THE ABOVE PROCEDURES WILL BE SUMMARILY REJECTED.

Envelop – C: (Financial Bid)
Financial Bid / Price Proposal in the format as prescribed in Annexure X.

Envelop – D: (Main Tender Envelop)

a. Envelop A , B & C .

17.2 PRICE BID –

The Bidder should furnish the following:-

i) The rate quoted as per unit (landed price) in Annexure-X shall be inclusive of Excise Duty / Custom Duty, freight, packing, insurance, inspection & testing charges, VAT/CST/Service TAX and should be F.O.R.i.e AIIMS Raipur on turn key basis.

ii) The rate quoted in column 8 of Annexure-X should be filled and should be for a unit and given specification. The Bidder is not permitted to change / alter specification or unit size given in the Annexure-X.

iii) Rates quoted for items other than mentioned in the tender form then that particular item will not be entertained.

iv) The rates of each item should be quoted in figures as well as in words also otherwise the tender is liable to be rejected.

v) The bidder shall also quote charges for Annual Maintenance Contract (without spare parts) / Comprehensive Maintenance Contract (include free labour, repair, other services & spare parts) for the next five years after the expiry of **warranty/gurantee period** in Annexure-XI. AMC should be quoted for equipments costing upto Rs.5.00 Lacs and CMC should be quoted for equipments costing more than Rs.5.00 Lacs.

vi) The bidder should quote alongwith guarantee / warranty of 5 years on equipments.

vii) Bidder should show recurring expenditure of each equipment separately.

18. Deadline for Submission of Bids

18.1 Bids will not be accepted after the time and date specified in the invitation for Bids (Section I).

18.2 The Rate Contracting Authority may, as its discretion, extend the deadline for submission of bids by amending the Bid Documents in accordance with ITB Clause 7, in which case all right and obligations of the Rate Contracting Authority and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

18.3 The Rate Contracting Authority will not be responsible for any delay or non-receipt of tender documents.

19. Late Bids

19.1 No Bid can be submitted after the last date and time of submission of bid.

20. Modification and withdrawal of Bids

20.1 No bid may be modified subsequent to the deadline fixed for submission.

20.2 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Form or any extension thereof. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid security, pursuant to ITB Clause 15.7.

E. Bid Opening and Evaluation of Bids

21. Opening of Bids by the Rate Contracting Authority

Opening of Bid process:

21.1 All bidders are entitled to be present at the date, time & place for opening of Bids.

21.2 Only one representative of each Bidder is entitled to remain present at the time of bid opening. Bidder's representative who is present shall sign a register evidencing his/her attendance. Such representative must be present with original authority letter issued by the bidder with ID proof in support thereof.

21.3 Opening of bid will be sequential process.

21.4 Bids will be opened in the presence of Bidder's representatives who choose to attend on the specified date and time fixed for opening the bid. Envelop D containing envelop **A, B & C** documents will be opened, out of which envelop **A** will be immediately opened physically. Documents together with contents of envelop **A** will be subject to scrutiny, those bidders whose documents and contents are as per tender conditions will only be deemed qualified for opening of technical bid. The date and time of opening of technical

bid (**envelop B**) will be within a week of opening of **envelop A** and will be communicated to those who qualify for opening of bid. Technical Bid will be evaluated as per specification and NCB terms & conditions by the Tender Evaluation Committee. Those bidders who qualify for the technical bid will be invited for demonstration of equipment on the day, date & place specified by R.C.A. The bidders will have to demonstrate the equipments on the date, day and place specified, failing which their bid will be rejected. Thereafter, Price Bid (envelop C) will be opened for those bidders whose bid will be found technically responsive after demonstration.

21.5 The Bidders' names, presence or absence of the requisite bid security will be announced at the opening of Technical Bid.

21.6 Bidders who were found eligible on satisfying the criteria for technical evaluation and inspection by the technical committee can only be invited to be present at the date and time for opening of Price Bid of the tender.

22. Clarification of Bids

22.1 During evaluation of bids, the Rate Contracting Authority may, at its discretion, ask the Bidder for clarification of its Bid. Any clarification submitted by a bidder in respect to its bid and that is not in response to a request by the Rate Contracting Authority shall not be considered. The request for clarification and the response shall be in writing and no change in prices or substance of the bid shall be sought, offered or permitted except to confirm the correction of arithmetic errors discovered by the Rate Contracting Authority in the evaluation of the bids.

23. Preliminary Examination

23.1 The Rate Contracting Authority will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether all documents are there, whether the documents have been properly signed, and whether the bids are generally in order.

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

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

23.2 The Rate Contracting Authority may waive any minor informality or non-conformity or irregularity or omissions in a bid which does not constitute a material deviation, provided such a waiver does not prejudice or affect the relative ranking of any Bidder.

23.3 Prior to the detailed evaluation, pursuant to ITB Clause 24, the Rate Contracting Authority will determine the substantial responsiveness of each bid to the bidding documents. For purposes of these Clauses, a substantially responsive bid is one which conforms to all the documents, terms, conditions and specifications of the bidding documents without material deviations. The Rate Contracting Authorities determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

23.4 If a bid is substantially responsive, the Rate Contracting Authority may request that the bidder submit the necessary information or documentation, within a reasonable period of time to rectify nonmaterial nonconformities or omissions in the bid related to documentation requirements. Such omissions shall not be related to any aspect of the price of the bid. Failure of the bidder to comply with the request within the stipulated time may result in the rejection of its bid.

23.5 If a bid determined as not substantially responsive, it will be rejected by the Rate Contracting Authority and may not subsequently be made responsive by the bidder by correction of the non-conformity.

24. Evaluation and Comparison of Bids

The Tender Evaluation Committee will evaluate and compare the bids previously determined to be substantially responsive, pursuant to Clause 23. Bids will be evaluated with reference to various criteria as specified in bid document and one of such criteria is that the rate per unit of (landed price) i.e. rate per item for determining the L_1 rate (Lowest rate). The quoted turnkey prices and CMC prices will also be added for comparison/ranking purpose for evaluation.

25. Contacting the Rate Contracting Authority

25.1 Subject to ITB Clause 22, no Bidder shall contact the Rate Contracting Authority on any matter relating to its bid, from the time of the bid opening to the time Rate Contract is awarded.

25.2 Any effort by a Bidder to influence the Rate Contracting Authority in its decisions on bid evaluation, bid comparison or contract award may result in rejection of the Bidder's bid. If the bidder wishes to bring additional information to the notice of the Rate Contracting Authority, it should do so in writing.

F. Award of Contract

26. Post Qualification

26.1 Based on the qualification criteria listed in ITB Clause 13, TEC will determine to its satisfaction whether the Bidder selected as having submitted the lowest evaluated responsive bid is qualified to satisfactorily perform the Contract.

26.2 The determination will take into account the Bidder's financial, technical, and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder. Pursuant to ITB Clause 13, as well as such other information as the Rate Contracting Authority deems necessary and appropriate.

26.3 The Rate Contracting Authority shall ask for demonstration whereable applicable of the quoted Modular Operation Theatre equipment. The cost of demonstration shall be born by the bidder. Day, date & place of demonstration shall be decided by Rate Contracting Authority.

26.4 An affirmative determination will be prerequisite for award of the Rate Contract to the Bidder. A negative determination will result in rejection of the Bidder's bid in which event the Rate Contracting Authority will proceed to the next bid to make a similar determination of that Bidder's capabilities to perform the contract satisfactorily.

26.5 The tenderers shall demonstrate whereable applicable the quoted model of the equipments during the technical evaluation on the day, date & place specified.

27. Award Criteria

27.1 Subject to ITB Clause 29 – The Director AIIMS Raipur will award the rate contract to the successful bidders on most reasonable prices on the basis of requisite evaluations.

28. Purchaser's Right to vary Quantities

28.1 The details of the required equipments etc. are to be shown in Annexure-VI. The quantity mentioned is only the tentative requirement and may increase or decrease as per the decision of the Purchaser. Successful bidders shall have to supply the items & services on the rates under same terms & conditions in case of any increase..

29. Director AIIMS Raipur's Right to Accept any Bid and to Reject any or all bids

29.1 Director AIIMS Raipur reserves the right to accept or reject the tender for the supply of all items of equipments or for any one or more of the items of equipments tendered for in a tender without assigning any reason, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or .

30. Notification of Rate Contract

30.1 Prior to the expiration of the period of bid validity, the Rate Contracting Authority will notify the successful Bidders in writing by registered letter or fax or e-mail, that its bid has been accepted.

30.2 The notification of Rate Contract will constitute the formation of the Contract.

30.3 Upon the successful Bidder's signed Rate Contract pursuant to ITB Clause 31, the Rate Contracting Authority will promptly notify each unsuccessful Bidder and will discharges its bid security, pursuant to ITB Clause 15.

30.4 If, after notification of rate contract, a Bidder wishes to ascertain the grounds on which its bid was not selected, it should address it's request to Director AIIMS Raipur. .

31. Signing of Rate Contract (Agreement)

31.1 At the same time the Rate Contracting Authority will inform to the successful Bidder that its bid has been accepted the Rate Contracting Authority will send the Bidder the Rate Contract Form provided in the bidding document incorporating all agreements between the parties.

31.2 Within 10 days of receipt of the Notification of Rate Contract, the successful Bidder shall sign and date the Contract on a non-judicial stamp paper of value of Rs.100/- (stamp duty to be paid by the Bidder) and return it to the Rate Contracting Authority.

31.3 The validity of Rate Contract will be one year from the date of singning of the rate contract agreement and may be extended for further period as agreed mutually unless revoked.

32. Performance Security & Inspection Charges

32.1 Within 15 days of the receipt of firm order from the Rate Contracting Authority or the date specified by the purchaser, the successful Bidder shall furnish the performance security and inspection charges in accordance with the Clause 7 & 8 of General Conditions of Contract.

32.2 Failure of successful bidder to comply with the requirement of ITB Clause 31 or ITB Clause 32.1 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security and disqualify the firm to participate in the tender for the next five years.

33. Placement of Supply Order

33.1 After finalization of the contract, the successful bidders may be asked to submit the delivery schedule as per requirement of the Purchaser. While placement of orders, the schedule given to the bidders, along with the other conditions stated at ITB 27.1 will be considered.

33.2 To ensure sustained supply without any interruption Director AIIMS Raipur reserves the right to split orders for supplying the requirements among more than one L-1 bidder.

34. Corrupt or Fraudulent Practices

34.1 For the purpose of this provision, the terms set forth as follows:

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

(ii) "Fraudulent practice" means a mis-presentation / hiding of facts in order to influence a procurement process or the execution of a contract to the detriment of the other bidders, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial noncompetitive levels and to deprive the other bidders of the benefits of free and open competition;

(iii) Will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practice in competing for the contract in question.

(iv) Will declare a firm ineligible, either indefinitely or for a stated period of time, to be allowed to participate, awarded a contract if at any time determines that the firm has engaged in corrupt or fraudulent practice in competing for, or in executing, a contract.

34.2 Furthermore, Bidders shall be aware of the provision stated in sub clause 21.4 of the General Conditions of contract.

SECTION III:
GENERAL CONDITIONS OF CONTRACT (GCC)

SECTION III:
GENERAL CONDITIONS OF CONTRACT (GCC)

TABLE OF CLAUSES

General Conditions of Contract

1. Definitions

1.1 In this Contract, the following terms shall be interpreted as indicated:

(a) "Rate Contract" means the agreement entered into between Director AIIMS Raipur and the Supplier, as recorded in the Contract Forms signed by the parties, including all the attachments and appendices thereto and all documents incorporated by reference therein for supply of material in agreed time period.

(b) "Price" means the price payable to the Supplier for the full and proper performance of its contractual obligations.

(c) "Goods" means all the equipments etc., which the supplier is required to supply to the purchaser under the Contract.

(d) "Services" means services ancillary to the supply of the Goods, such as transportation and insurance and any other incidental services, and other obligations of the Supplier covered under the Contract.

(e) "GCC" means the General Conditions of Contract contained in this section.

(f) "SCC" means the Special Conditions of Contract.

(g) "The Purchaser" means the The Director, AIIMS, Raipur.

(h) "The Purchaser's Country" is the country named in SCC.

(i) "Director" means Director, AIIMS Raipur.

(j) "The Supplier" means the manufacturers / authorized distributors of manufacturers or authorized firm supplying the Equipment, Goods and Services under this Contract.

(k) "Chairman, PC" means Chairman, Purchase Committee which is Deputy Director (Administration), AIIMS, Raipur (C.G.)

(l) "Rate Contracting Authority" means the Chairman, Purchase Committee.

(m) "The Project Site" where applicable, means the place or places named in SCC.

(n) "Day" means calendar day.

2. Applications

2.1 These General Conditions shall apply to the extent that they are not superseded by provisions in other parts of the Contract.

3. Country of Origin

3.1 All equipment, goods & services supplied under the Contract shall be specified their country of origin.

3.2 For purpose of this Clause "origin" means the place where the Goods are mined, grown or produced, or from which the Services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembling of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.

3.3 The origin of Equipment, Goods & Services is distinct from the nationality of the Supplier.

4. Standards

4.1 The Goods supplied under this Contract shall confirm to the standards mentioned in the Technical Specifications and when no applicable standard is mentioned, latest standards agreeable to Rate Contracting Authority should be supplied.

4.2 Genuine Equipments For Establishment of Modular Operation Theatre AND Medical Gases must be supplied. Tenderers should indicate the source of supply i.e. name & address of the manufacturers from whom the items are to be imported.

4.3 While quoting the rates of Equipments of establishment of Modular Operation Theatre as enclosed list, the name of the manufacturer, must be mentioned otherwise the tender is liable to be rejected.

4.4 The rates of every item should be quoted from standard and well reputed firms / companies and they should be minimum possible.

4.5 For Equipments for establishment of Modular Operation Theatre means should bear quality assurance certification like ISO 9002 **or** CE Mark of ISI standardization.

4.6 Software and Hardware Upgradation – Free Digital Up-gradation of software (all update & upgrades) upto 5 years.

4.7 Online UPS with digital technology should be supplied with the equipments required by it.

4.8 Technical specification of equipments / work mentioned is basic, however, equipments of higher specifications may be quoted at no extra cost.

4.9 No change in make/manufacturer will be allowed at the time of supply. Changes resulting out of technology upgradation of the same manufacturer can be permitted at no extra cost.

4.10 Circuit diagram with operator's and service manual must be enclosed along with the equipment.

4.11 Names of the institution in India, where quoted equipment / work has been supplied / installed / done during last three years must be attached. Also number of units sold in India must be informed in writing.

4.12 The Bidders are not allowed to quote for equipments / components with less than desire specification. Deviation from specification on lower / negative side shall not be considered if at any time during evaluation / after supply of equipments / components are found below specification EMD / performance guarantee shall be forfeited and action will be taken for black listing.

4.13 Latest models which fulfills this tender's specifications must be quoted.

4.14 An affidavit of the manufacturer duly notarized on Non Judicial stamp paper must be enclosed to guarantee supply of all spare parts for 5 years beyond guarantee / warranty period must be enclosed. The manufacturer must submit an authorized price list of genuine spare parts / standard parts and must also mention in the above affidavit that they will ensure sending any revised price list in the event of award of contract which requires AMC / CMC.

4.15 Tenders of refurbished equipments / machineries will not be accepted. The bidder must give an affidavit on a duly notarized Non judicial stamp paper that the quoted equipment / machine is not refurbished.

5. Use of Contract documents and information

5.1 The supplier shall not, without the Rate Contracting Authority's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the Rate Contracting Authority in connection therewith, to any person other then a person employed by the supplier in performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extent only so far as may be necessary, for purposes of such performance.

5.2 The Supplier shall not, without the Rate Contracting Authority's prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for the purposes of performing the Contract.

5.3 Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of Director AIIMS Raipur and shall be returned (in all copies) to the Director on completion of the Supplier's performance under the contract if so required by the Director.

6. Patent Rights

6.1 The Supplier shall indemnify the Director against all third-party claims of infringement of patent, trademark or industrial design rights arising from use of the Goods or any part thereof in India.

7. Performance Security

7.1 The supplier shall furnish performance security in the amount specified in SCC 2.1 to the purchaser as specified in GCC 1.1 (g).

7.2 The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

7.3 The Performance Security shall be denominated in Indian Rupees and shall be in the form of DD/ F.D.R. / Bank Guarantee of Nationalized Bank located in India in the prescribed form provided in bidding document or another acceptable to the purchaser in favour of Purchaser till 60 days beyond the date of completion of all contractual obligations including warranty obligations.

7.4 The performance security will be discharged by the purchaser and returned to the Supplier not later than 60 days following the date of completion of the Supplier's satisfactory performance obligations, including warranty obligations, unless specified otherwise in SCC.

8. Inspection and Tests

If purchaser wishes:

8.1 The purchaser or its representative shall have the right to inspect and/or test the Goods to confirm their conformity to the contract. The Special Conditions of Contract and/or the Technical Specification shall specify what inspections and tests the purchaser requires and where they are to be conducted. The purchaser shall notify the Supplier in writing of the identity of any representatives retained for these purposes.

(i) The Supplier shall notify the purchaser or its representative at least 10 days prior to the date when Goods are available for inspection.

(ii) The Supplier will provide to the purchaser or its representative all reasonable facilities for the conduct of such inspections and tests at no additional cost to the purchaser. The Supplier may seek an independent quality test report for batch ready for shipment. The cost of such tests will be borne by the Supplier.

(iii) Where the Supplier contests the validity of the rejection by the purchaser or his representative, whether based on product or packing grounds, a sample drawn by the Inspection Authority will be forwarded for analysis to an independent technical inspection. The Finding, which will be promptly obtained, will be final and biding on both the parties. The cost of umpire analysis will be borne by the losing party.

(iv) The Purchaser's right to inspect, test and where necessary, reject the Goods after the Goods arrival in at Site shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by the purchaser or its representative prior to the Goods shipment from the country of origin.

(v) Nothing in Clause 8 shall in any way release the supplier from any warranty or other obligations under this Contract.

9. Packing

9.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate the remoteness of the Goods final destination and the absence of heavy handling facilities at all points in transit.

9.2 The packing marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be provided for in the contract including additional requirements, if any, specified in SCC, Technical specification and in any subsequent instruction ordered by the Purchaser.

10. Delivery and Documents

10.1 Supply of equipment, goods and services should be completed within 10 weeks from the date of supply order unless otherwise specified in the supply order. Purchaser will place order by fax &/or e-mail &/or speed post.

10.2 It shall be the responsibility of the Supplier to make good for any shortage/damage at the time of receipt at designated place.

10.3 The details of shipping and/or other documents to be furnished by the Supplier are specified in SCC.

10.4 The delivery of Equipments for Modular Operation Theatre should be made at the point / place specified by the Purchaser in Purchase Order.

10.5 The successful bidders should strictly adhere to the following delivery schedule Supply, Installation & Commissioning on turn key basis should be effected within a fortnight from the date of supply and this clause should be strictly adhere to failing which necessary administrative action as deemed fit under rules will be taken against the defaulter.

10.6 Supply must be *in toto* i.e. not in fraction.

11. Insurance

11.1 The Goods supplied under the contract shall be fully insured in Indian Rupees against the loss or damage incidental to manufacture, acquisition, transportation, storage, delivery, installation and test running in the manner specified in SCC.

12. Transportation

12.1 Where the Supplier is required under the Contract to transport the Goods to project site, including insurance as shall be specified in the Contract shall be arranged by the Supplier, and the related cost shall be included in the Contract Price.

12.2 The loss or damage of material whatsoever, whether insured or not, during transit shall be made good by bidder free of charge, failing which the losses will be deducted from their bill / performance security.

12.3 Wharfage, demurrages etc. on account of incorrect or delayed dispatch of material or documents shall be the responsibility of the supplier and shall be recovered from his bill / performance security.

13. Warranty

The Bidder shall provide on site warranty/gurantee of the equipment for the period of **five years from the date of installation**. Warranty will cover services, repairs, maintenance, replacement of spare parts, broken / damaged / worn out spare parts and other services free of cost during the whole warranty period of five years. The warranty shall also include "on call service" which should not exceed **24 hours from the time of lodging of complaint through e-mail**. The bidder will provide reference docket number by return e-mail indicating probable time to repair. The purchaser shall have the right to get the work done at the cost of bidder's responsibility, if machine is not repaired within 24 hours. **The company is to assure uninterrupted service without compromising OT/ICU**

13.1 The Purchaser shall promptly notify the Supplier in writing of any claims arising under the warranty.

13.2 Upon receipt of such notice, the Supplier shall, with all reasonable speed, replace the sub standard equipments, without cost to the Purchaser.

13.3 If the Supplier, having been notified, fails to remedy the defect(s) within **three days**, the Purchaser may proceed to take such remedial actions as may be necessary, at the Supplier's risk and expense and will have right to impose penalty without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

13.4 The stores supplies shall be strictly in accordance with the Specifications / Standards and shall be of the best quality. The stores are demanded to carry the Supplier's own guarantee of the items by the consignee.

13.5 If at any time during/after the supply if equipment is not found as per specification, sub standard or refurbished the bidder shall replace defective equipment at his own cost, immediately, failing which the total amount is recoverable from him and he will be black listed.

13.6 UPTIME GUARANTEE: The firm should provide uptime guarantee of 98% for the year.

13.7 **Downtime penalty Clause**:
During the Guarantee / Warranty period, desired uptime of 98% of 365 days (24 hours), if downtime exceeds 2% in a year, penalty in the form of extended warranty, double the number of days for which the equipment goes out of service will be applied. If accessories /other attachment of the system are procured from the third party, then the vendor must produce cost of accessory/other attachment and the AMC / CMC from the third party separately along with the main offer and the third party will have to sign the AMC / CMC with the Purchaser if required. In no case instrument should remain in non – working condition for more than **3 consecutive days**, beyond which a penalty of 1% of machine cost will be charged per day. The Principals or their agents are required to submit a certificate that they have satisfactory service arrangements and fully trained staff available to support the uptime guarantee.

13.8 **Guarantee / Warranty period**: The tenderers must quote for 5 years warranty from the date of completion of the satisfactory installation. The Warranty charges **shall not** be quoted separately otherwise the offer shall be summarily rejected. Also the Bidders should submit their quote for subsequent 5 years AMC (without spare parts) / CMC (include free labour, repair, other services & spare parts). Failure to comply this condition will entail the rejection of the Bids. The price comparison shall be made taking into account on basic price and post warranty AMC / CMC. The Rate Contracting Authority reserves the right to award AMC / CMC. A.M.C. (without spare parts) shall be quoted for equipments costing upto Rs.5.00 Lacs and C.M.C. (include free labour, repair, other services & spare parts) shall be quoted for equipments costing above Rs.5.00 Lacs. So the price of AMC / CMC should be quoted according to the cost of equipment.

13.9 **SPARE PARTS**: The separate price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warrantee period must be attached / enclosed along with the sealed quotation without this bid will not be considered. If any spares & accessories other than the price list attached/enclosed by the firm are required for future repair it will be borne by the firm only. The tenderers are required to furnish the list of spares along with their cost in the Financial Bid failing which their bids are liable to be rejected. The spare parts should be of standard quality. The bidder must take guarantee of availability of supply of spare parts upto 5 years beyond the warranty / gurantee period and must submit affidavit as per GCC clause 4.13.

13.10 The vendor **must** undertake to supply all spares for optimal upkeep of the equipments for at least 10 years after handing over the Unit to the Institute.

13.11 **TRAINING**: Training of equipments within the stipulated time should be done by the suppiler at his cost. The time & place of training shall be stipulated by purchaser. Training should be of 2 doctors and 2 technicians of user department.

13.12 The Tenderers should clearly indicate the name of the Manufacturers / Beneficiary of the Letter of Credit, country of origin, place of shipment / air freightment etc.

13.13 Letter of Credit upto 75% of order value shall be opened after receiving a Bank Guarantee for the entire 100% of ordered value. The bank guarantee must cover the entire period up to the stage of handing over on turnkey basis.

13.14 Local agents quoting on behalf of their foreign suppliers must attach authority letter in their favour.

13.15 Successful tenderers will have to furnish **Performance Bank Guarantee for 10% contract value from any Nationalized Bank valid for the warranty period**.

13.16 The rates quoted for the Stores/Equipments, under the reference, by the supplier shall in no event exceed the lowest price at which the suppliers of the Stores / Equipments of identical description are made to any other person / organization / institution during the period and should attach an undertaking **(duly notarized)**.

13.17 Equipment should be brand new & of latest technology along with digital technique wherever applicable.

13.18 The Director reserves the right to increase the accessories and their numbers, payment will be made only for ordered accessories.

14. Payment

14.1 The method and conditions of payment to be made to the Supplier under the contract shall be specified in the SCC.

14.2 The Supplier's request(s) for payment shall be made to the Purchaser in writing accompanied by an invoice describing, as appropriate, the Goods delivered and the service performed, and by documents, submitted pursuant to GCC Clause 10, and upon fulfillment of other obligations stipulated in the contract.

14.3 Payments shall be made by the Purchaser after submission of the claim by the Supplier. All sincere efforts will be made for payment of due amount which has been submitted to the purchaser within 30 days unless the situation being out of control of the purchaser. Proforma invoice should also be submitted.

14.4 Payment shall be made in Indian Rupees.

14.5 The payment of the claim / bill will be made after deduction of VAT as per rules of Chhattisgarh Commercial Tax Act and other taxes from the bill.

14.6 No payment shall be made for rejected Stores. Rejected items must be removed by the supplier within two weeks of the date of rejection at their own cost and replace immediately. In case these are not removed these will be auctioned at the risk and responsibility of the suppliers without any notice.

14.7 Supply of equipments means – installation and commissioning and also test running at site. No separate charges will be paid separately on this account.

14.8 Payment will be made after installation, commissioning and successful test running at the site, due verification and subsequent **satisfactory report of the user department**.

15. Prices

15.1 Prices charged by the Supplier for Goods delivered and Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid.

15.2 Recurring expenditure of the machine / equipment should be mentioned.

16. Change orders

16.1 The Rate Contracting Authority may at any time, by written order given to the Supplier pursuant to GCC Clause 29 make changes within the general scope of the Contract in any one or more of the following:

1. The method of shipping or packing, installation;
2. Any other terms & conditions in public interest.

16.2 If any such change causes an increase or decrease in the cost of, or the time required, for the Supplier's performance of any provision under the Contract, and equitable adjustment shall be made in the Contract Price or delivery schedule or both and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within fifteen (15) days from the date of the Supplier's receipt of the Purchaser's change order.

16.3 The Purchase Orders on approved rates will be placed by the Purchaser.

17. Contract Amendments.

17.1 Subject to GCC Clause 16, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by both the parties.

18. Assignment

18.1 The Supplier shall not assign, in whole or in part, its obligations to perform under the Contract, except with the Purchaser's prior written consent.

19. Delays in the Supplier's Performance

19.1 Delivery of the Goods and performance of the Services shall be made by the Supplier in accordance with the time schedule specified by the Purchaser in the Supply order.

19.2 If at any time during performance of the Contract, the Supplier should encounter conditions impeding timely delivery of the Goods and performance of the Service, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice the Purchaser shall evaluate the situation and may at its discretion extend the supplier's time for performance.

19.3 Except as provided under GCC Clause 22, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of **liquidated damages** pursuant to GCC Clause 20, unless an extension of time is agreed upon pursuant to GCC Clause 19.2 without the application of liquidated damages.

20. Liquidated Damages

20.1 Subject to GCC Clause 22, if the Supplier fails to deliver any or all the Goods or to perform the services within the period(s) specified in the supply order, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed goods or unperformed services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of percentage specified in SCC. Once the maximum is reached, the Purchaser may consider termination of the Contract pursuant to GCC Clause 21.

21. Termination for Default

Contract may be terminated by the Purchasing Authority if:

21.1 If the supplier fails to execute the supply within the stipulated time, the Purchaser is at liberty to make alternative purchase, in the event of making ALTERNATIVE PURCHASE, the supplier will be imposed penalty apart from the forfeiture of Performance Guarantee. The excess expenditure over and above contracted prices incurred by the Purchaser in making such purchases from any other sources or in the open market or from any other supplier who has quoted higher rates and other losses sustained in the process, shall be recovered from the Performance Security or from any other money due and become due to the Supplier and in the event of such amount being insufficient, the balance will be recovered personally from the Supplier. The penalty would be as under:

a. First extension 71st day thereof from the date of issue of supply order – 3% of supplied ordered item.
b. Second & maximum after 85 days from the date of issue of supply order – 5% of supplied ordered item.
c. The order will be deemed cancelled after expiry of 90 days from the issue date.

21.2 The order may be cancelled after expiry of delivery period as mentioned in the supply order and the supplier shall also suffer forfeiture of the Performance Security and shall invite other penal action like blacklisting / disqualification from participating in present and future tenders.

21.3 Purchasing Authority will be at liberty to terminate by assigning justifiable reason thereof the contract either wholly or in part on one month notice. The Supplier will not be entitled for any compensation whatsoever in respect of such termination.

21.4 If the Supplier, in the judgment of the Rate Contracting Authority has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

For the purpose of this Clause.

"**Corrupt practice**" means 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.

"**Fraudulent practice**" means a mis-presentation / hiding of facts in order to influence a procurement process or the execution of a contract to the detriment of the other bidders, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial noncompetitive levels and to deprive the other bidders of the benefits of free and open competition.

21.5 For infringement of the stipulations of the contract or for other justifiable reasons, the contract may be terminated by the Purchasing Authority, and the supplier shall be liable for all losses sustained by the Purchasing Authority, in consequence of the termination which may be recovered personally from the supplier or from his properties, as per rules.

21.6 Non performance of any of the contract provisions will disqualify a firm to participate in the tender for the next five years.

21.7 In all the above conditions, the decision of the Purchasing Authority shall be final and binding.

22. Force Majeure

22.1 Not with standing the provision of GCC Clause 19, 20, 21, the Supplier shall not be liable for forfeiture of its performance security, liquidated damages, penalty or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

22.2 For purpose of this Clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Purchasing Authority either in its sovereign or contractual capacity, wars or revolution, fires, floods, epidemics, quarantine restrictions and freight embargoes.

22.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchasing Authority in writing with adequate proof of such conditions and the cause thereof. Unless otherwise directed by the Rate Contracting Authority in writing the Supplier continue to perform its obligations under the Contract as far as it is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by Force Majeure event.

23. Termination for insolvency

23.1 The Purchasing Authority may at any time terminate the contract by giving written notice to the Supplier, if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Rate Contracting Authority.

24. Termination for Convenience

24.1 The Purchasing Authority, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchasing Authority's convenience, the extent to

which performance of the Supplier under the contract is terminated, and the date upon which such termination become effective.

24.2 The Goods that are complete and ready for shipment within 30 days after the Supplier's receipt of notice of termination shall be accepted by the Purchasing Authority at the Contract terms and prices. For the remaining Goods, the Purchasing Authority may elect:

i) to have any portion completed and delivered at the Contract terms and prices; and / or

ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and for materials and parts previously procured by the Supplier.

25. Resolution of Disputes

25.1 The Purchasing Authority and the Supplier for the rate contracts & purchaser and supplier for supply order, supply, delivery and payment and other issues shall make every effort to resolve amicably by direct informal negotiations any disagreement or dispute arising between them under or in connection with the Contract.

25.2 If, after thirty (30) days from the commencement of such informal negotiations, the Purchasing Authority and the Supplier & purchaser and the supplier have been unable to resolve, amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms specified in the SCC. These mechanisms may include, but are not limited to, conciliation mediated by a third party, adjudication in an agreed national or international forum, and/or international arbitration.

i. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the goods under the contract.

ii. Arbitration proceedings shall be conducted in accordance with the rules of procedure specified in SCC.

25.3 Notwithstanding any reference to arbitration herein the parties shall continue to perform their respective obligations under the contract unless they otherwise agree.

26. Limitation of Liability

26.1 Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6.

i. The supplier shall not be liable to the Purchasing Authority, whether in contract, tort, or otherwise, for any indirect or consequential clause or damage, loss of use, loss of production or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the suppliers to pay liquidated damages to the Purchasing Authority, and

(ii) The aggregate liability of the supplier to the Purchasing Authority, whether under the contract, in tort or otherwise, shall not exceed the total ordered price, provided

that this limitations shall not apply to the cost of replacing sub-standard/defective goods.

27. Governing Language

27.1 The contract shall be written in English language. Subject to GCC Clause 28, English language version of the Contract shall govern its interpretation. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.

28. Applicable Law

28.1 The Contract shall be interpreted in accordance with the laws of the Union of India.

29. Notices

29.1 Any notices given by one party to the other, pursuant to this Contract, shall be sent to other party in writing, confirmed in writing to the other Party's address specified in SCC.

29.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

30. Taxes and Duties

30.1 In case of any enhancement in Excise Duty due to notification of the Government after the date of submission of tenders and during the tender period, the quantum of additional excise duty so levied will not be paid extra.

30.2 Suppliers shall be entirely responsible for all taxes, duties license fees, octroi, road permits, etc. incurred until delivery of the contracted Goods to the Purchaser

31. Fall Clause

31.1 Prices charged for supplies under Rate Contract by the supplier should in no event exceed the lowest prices at which he offers to sell or sells the stores of identical description to any other State Government / DGS & D/ Public Undertaking during the period of the contract.

31.2 If at any time during the period of contract, the price of tendered items is reduced or brought down by any law or Act of the Central of State government, the supplier shall be bound to inform Purchasing Authority immediately about such reduction in the contracted prices, in case the supplier fails to notify or fails to agree for such reduction of rates, the Purchasing Authority will revise the rates on lower side. If there is a price increase for any product after quoting the rates, the bidder will have to supply the item as per quoted rates. This office will not accept any higher rates after wards.

31.3 If at any time during the period of contract, the supplier quotes the sale price of such Equipments or sells such Equipments to any other State Govt. / DGS&D and Public

Undertakings at a price lower than the price chargeable under the rate contract he shall forthwith notify such reduction to Purchasing Authority and the prices payable under the rate contract for the Equipments supplied from the date of coming into force of such price stands correspondingly reduced as per above stipulation however reduction shall not apply to :-

(a) Export by the supplier

(b) For all contracts entered into prior to the date of the tender or for any backlog of pending orders.

31.4 Within six months of the commencement of the rate contract and at the rate contract period a certificate in the following forms will have to be submitted by the supplier :-

"I/We certify that the stores of description identical to the store supplied to the AIIMS Raipur, under the contract herein have not been sold by me/us to any other State Govt. / Central Govt. / DGS & D / Public Undertaking/ Automomous Body under government during the period of the rate contract of AIIMS Raipur under the contract / except for the quantity of under sub-clause (a) & (b) of the clause 31.3."

32. Jurisdiction

32.1 In respect of all disputes or claims related with Rate Contracts out of or under this contract, Raipur Court alone shall have jurisdiction to entertain the same.

32.2 In respect of all disputes or claims related with Supply, Payments and any other out of or under this contract, the concerned Court of Purchaser's place shall have jurisdiction to entertain the same.

CHAIRMAN, PURCHASE COMMITTEE &
Deputy Director (Administration)
All India Institute of Medical Secience
Tatiband, Raipur (C.G.) 492099
For Director, AIIMS Raipur

SECTION IV :
SPECIAL CONDITIONS OF CONTRACT (SCC)

SECTION IV :
SPECIAL CONDITIONS OF CONTRACT (SCC)

TABLE OF CLAUSES

Special Conditions of Contract

The following special conditions of contract shall supplements the general conditions of contract whenever there is a conflict, the provisions herein shall prevail, over those in the general conditions of contract the corresponding clause numbers of the general conditions is indicated in parentheses.

1. Definitions (GCC Clause 1)

GCC 1.1 (g) (a) The Purchaser is AIIMS, Raipur (C.G.) which is also Good's Receiving Authority.

GCC 1.1 (i) (b) The Supplier is the individual or firm supplying the Goods and Services under this Contract.

GCC 1.1 (h) (c) The Purchaser Country is India.

GCC 1.1 (l) (d) The project site is as per supply order.

2. Performance security (GCC Clause 7)

2.1 The supplier shall be required to pay **10% performance security of the order value**. The performance security should be paid upfront in respect of each supply order or before the due date fixed by the Purchaser, valid beyond 60 days of completion of contractual obligations including guarantee / warranty.

2.2 Substitute clause 7.4 of the GCC by the following.

The performance security will be discharged by the Purchaser and returned to the supplier not later than 60 days following the date of completion of the supplier's satisfactory performance obligations including the warranty obligations under the contract.

2.3 Add as clause 7.5 to the GCC the following:-

In the event of any contract amendment, the supplier shall, within 07 days of receipt of such amendment furnish the amendment to the performance security, rendering the same valid for the duration of the contract as amended for further period of 60 days thereafter.

3. Inspection and tests (GCC Clause 8)

If purchaser wishes:

A. The inspections shall be carried out by the appointed Technical Committee or Inspection Agency at the premises of the suppliers / godown or stores of the supplier / at point of delivery / installation. Inspection and testing charges for the above purpose shall be borne by the supplier.

B. Inspection note will be issued by the inspection committee verifying the specification, performance, details of accessories supplied with the machine, test

certificate issued by the respective authority etc. as decided by the purchasing committee.

C. The machine will be dispatched only after the inspection procedure has been followed and inspection note issued to accept the consignment.

D. The consignee may also draw the sample, at random, from the consignment within 45 days of their receipts, and get them re-tested to satisfy whether the lots conform to the laid down specification. In the event of the sample failing to conform to specification, the consignee shall reject the batch of supply and inform the supplier for arranging replacement of the rejected batches at his own cost.

E. When the inspection conducted on the premises of the supplier, all reasonable facilities and assistance including access to drawing and production data shall be furnished to the inspectors at no charge to the Purchaser.

F. In the event of the sample of EQUIPMENTS failing quality test and found to be not as per specification the Purchaser is at liberty to make alternative purchase of the items, of EQUIPMENTS for which the supply orders have been placed, from any other sources or in the open market or from any other suppliers who might have quoted higher rate at Bid and the cost of the supplier and in such cases the Purchaser has every right to recover the excess cost from supplier's performance security.

G. If any items of equipments supplied by the supplier have been partially or wholly used or consumed after supply and are subsequently found to be in bad order, unsound, inferior in quality or description or otherwise faulty or unfit for consumption and if payment had already been made to him then the contract price or prices of such articles or things will be recovered from the supplier, The supplier will not be entitled to any payment, whatsoever, for items of equipments found to be NOT OF STANDARD QUALITY whether consumed or not and the purchaser is entitled to deduct the cost of such equipments from any amount payable to the supplier. On the basis of nature of failure, the product / supplier will be moved for black listing.

H. For equipments labelled as NOT OF STANDARD QUALITY, the concerned administration will be informed for initiating necessary action against the supplier and that product shall be banned / black listed and no further supplies will be accepted from him till he is legally discharged. The supplier shall also not be eligible to participate in tenders for supply of such equipments for a period of five subsequent years.

4. Annual (without spare parts) (AMC) / Comprehensive (include free labour, repair, other services & spare parts) Maintenance Contract (CMC) & Training

4.1 The Bidder shall also quote charges for Annual (without spare parts) / Comprehensive (include free labour, repair, other services & spare parts) Maintenance Contract for the next five years after the expiry of five years warranty period in Annexure-XII.

4.2 The bidder shall provide operational training to Technician staff / operator for minimum of **10 days** by the expert or as instructed at the time of agreement.

4.3 The bidder should take guarantee of the availability of all spare parts for a minimum period of 10 years from the date of installation.

4.4 Genuine equipments and instruments etc. should be supplied. Tenderers should indicate the source of supply i.e. name and address of the manufacturers from whom the items are to be imported.

5. Packing (GCC Clause 9)

Add as clause 9.3 of the GCC of the following:-

Packing Instructions: The Supplier will be required to make separate packages for each Consignee. Each package will be marked on three sides with proper paint/indelible ink, the following:

(i) Project (ii) Contract No. (iii) Country of Origin of Goods (iv) Supplier's Name; and (v) Packing list reference number.

5.1 Packing should be able to prevent damage or deterioration during transit.

5.2 In the event of items of equipments supplied found to be not as per specifications in respect of their packing, the Purchaser is at liberty to make alternative purchase of the items of equipments for which the supply orders have been placed from any other sources or in the open market or from any other bidder who might have quoted higher rates at the risk and the cost of the supplier and in such cases the Purchaser has every right to recover the cost and imposes penalty as mentioned in GCC clause 21.1.

6. Delivery and documents (GCC Clause 10)

Upon delivery of the goods, the supplier shall submit the following documents to the Purchaser.

(i) Three copies of the supplier invoice showing Goods description, quantity, unit price, and total amount.

(ii) Acknowledgement of receipt of goods from the consignee(s).

(iii) Installation certificate signed by respective consignee.

(iv) Manufacturer's / supplier's warranty certificate.

(v) Inspection certificate issued by the nominated inspection agency, and the Supplier's factory inspection report; and

(vi) Certificate of origin.

(vii) Photocopy of all test report of all equipments etc. should be submitted with every delivery challan.

7. Insurance (GCC Clause 11)

For delivery of goods at site, the insurance shall be obtained by the supplier in an amount equal to the value of the goods from final destinations as specified in the supply order of "All Risks" basis including war Risks and strike.

Should any loss or damage occurs, the supplier shall:

(a) Initiate and pursue claim till settlement, and

(b) Promptly make arrangement for replacement of any damaged item/s irrespective of settlement of claim by the underwriters.

8. Payments (GCC Clause 14)

Payment for goods and services shall be made in Indian Rupees as follows:-

8.1 No advance payments towards cost of equipments etc. will be made to the supplier.

8.2 All payments shall be made by way of crossed cheques drawn in favour of the supplier.

8.3 All bills / invoices should be raised in triplicate in the name of Director AIIMS Raipur.

Payment for goods and services shall be made in Indian Rupees as follows:-

8.4 No advance payments towards cost of equipments etc. will be made to the supplier.

8.5 All payments shall be made by way of crossed cheques drawn in favour of the supplier.

8.6 All bills / invoices should be raised in triplicate in the name of Concerning Purchaser.

8.7 **90 %** of Payment will be made after completion of supply of goods / service on turn key basis as per supply order, installation, commissioning and successful test running at the site, due verification and subsequent satisfactory report of the user department. Payments shall be made by the Purchaser after submission of the claim by the Supplier. All sincere efforts will be made for payment of due amount which has been submitted to the purchaser within 30 days unless the situation being out of control of / unforeseen for the purchaser. Proforma invoice should also be submitted. Remaining **10 %** payment will be made after lapse of 6 month of the satisfactory service provided by the installed system.

8.8 Payment for Annual Comprehensive Maintenance Contract Charges:
The consignee will enter into CMC with the supplier at the rates as stipulated in the contract. The payment of CMC will be made on six monthly basis after satisfactory

completion of said period, duly certified by the consignee on receipt of bank guarantee for an amount equivalent to 2.5 % of the cost of the equipment as per contract valid till 2 months after expiry of entire CMC period.

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

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.

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

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

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

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.

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

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

(a) The supplier will make good any defect or deficiency that the consignee (s) may report within six months from the date of despatch of goods.

(b) Delay in supplies, if any, has been regularized.

(c) The contract price where it is subject to variation has been finalized.

(d) The supplier furnishes the following undertakings:

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

8.9 FALL CLAUSE: If, at any time, during the said period, the supplier reduce the said prices of such Stores/ Equipment or sales such stores to any other person/organization at a price lower than the chargeable, he shall forthwith notify such reduction or sale to the PURCHASER and the price payable for the Stores supplied after the date of coming into force of such reduction or sale shall stand correspondingly reduced.

9. Prices (GCC Clause 15)

Substitute clause 15.1 of the GCC with the following:

Prices payable to the supplier as stated in the contract shall not be subject to adjustment during performance of the contract

10. Liquidated damages & deduction in payment (GCC Clause 20)

10.1 For delay :

Substitute GCC clause 20.1 by the following:
Subject to GCC clause 20, if the supplier fails to deliver any or all the goods or perform the services within the time period(s) specified in the contract. The Purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price as liquidated damages, as shown below of the delivered price of the delayed goods or unperformed services for each week of delay or part thereof until actual delivery or performance up to maximum deduction of 5% of the delayed goods or services contract price. Once the maximum is reached, the purchaser may consider termination of the contract.

a. First extension 71st day thereof from the date of issue of supply order – 3% of supplied ordered item.
b. Second & maximum after 85 days from the date of issue of supply order – 5% of supplied ordered item.
c. The order will be deemed cancelled after expiry of 90 days from the issue date.

Purchaser has every right to receive supply even after expiry of delivery period as mentioned in the supply order and in such case, liquidated damages will be levied @ 3% of the delivery price of the delayed goods or unperformed services for each week of delay or part thereof until actual delivery or performance.

10.2 Supply in damaged condition shall not be accepted. In case of damage in the packing, the supply will be accepted only after levying penalty or replacement of damaged supply on the total value of supply to that particular / other designated place.

10.3 Supply must be in toto i.e. not in fraction.

11. Resolution of disputes (GCC Clause 25)

Add as GCC clauses 25.4 and 25.5 the following:

25.4 The dispute resolution mechanism to be applied pursuant to GCC clause 25 shall be as follows:

(a) In case of dispute or difference arising between the Rate Contracting Authority / Purchaser and supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the

Arbitration and Conciliation Act, 1996. The Next Higher Authority shall be the Arbitrator.

25.5 The Venue of Arbitration shall be at concerned place of next higher authority of R.C.A. / Purchaser.

12. Notices (GCC Clause 29)

For the purpose of all notices, the following shall be the address of the Rate Contracting Authority & Purchaser and supplier:

Rate Contracting Authority: **Deputy Director (Administration)**
All India Institute of Medical Science
Tatibandh, GE Road,
Raipur (CG) 492099
Tel – 0771 25 73 222
E-mail:- dda@aiimsraipur.edu.in

Supplier : (To be filled at the time of Contract Signature)

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13. Supplier Integrity

The supplier is responsible for and obliged to conduct all contracted activities in accordance with the contract using state-of-the-art methods and economic principles and exercise all means available to achieve the performance as specified in the contract.

14. Supplier's obligations

The supplier is obliged to work closely with the Purchaser's staff, act within its own authority and abide by directives issued by the Purchaser and implementation activities.

The supplier will abide by the job safety measures prevalent in India and will free the purchase from all demands or responsibilities arising from accidents or loss of life the cause of which is the supplier's negligence. The supplier will pay all indemnities arising from such incidents and will not hold the Purchaser responsible or obligated.

The supplier is fully responsible for managing the activities of its personnel or sub contracted personnel and will hold itself responsible for any misdemeanors.

The Supplier will treat all data and information about the Purchaser, obtained in the execution of his responsibilities, in strict confidence and will not reveal such information to any other party without the prior written approval of the Rate Contracting Authority / Purchaser.

15. Patent right (GCC Clause 6)

In the event of any claim asserted by a third party of infringement of copyright , patent, trademark or industrial design rights arising from the use of goods or any part thereof in

the Purchaser's country, the supplier shall act expeditiously to extinguish such claim. If the supplier fails to comply and the Purchaser is required to pay compensation to a third party resulting from such infringement, the supplier shall be responsible for the compensation including all expenses court cost and lawyers fees. The Purchaser will give notice to the supplier of such claim, if it is made, without delay.

16. Progress of Supply

Supplier : (To be filled at the time of Contract Signature)

Supplier shall regularly at every 7 days interval shall intimate item wise progress of supply in writing, to the Purchaser as under:

- Quantity offered for inspection and date :
- Quantity accepted / rejected by inspecting agency and date:
- Quantity dispatched / delivered to consignee and date :
- Quantity where incidental services have been satisfactorily completed with date :
- Quantity where rectification / replacement effected / completed on receipt of any communication from consignee / Purchaser with date :

  (In case of state-wise inspection, details required may also be specified).

Deputy Director (Administration)
All India Institute of Medical Science
Tatibandh, GE Road,
Raipur (CG) 492099
Tel – 0771 25 73 222
E-mail:- dda@aiimsraipur.edu.in

SECTION V
Ref. Clause No. 17.1(p) of ITB

BID FORM

Date : _____
Tender No. AIIMS/RPR/OT/2013-14

To,

Director
All India Institute of Medical Science
Tatibandh, GE Road,
Raipur (CG) 492099

I/We, the undersigned, declare that:

i. I/We have examined the bidding documents including Addenda Nos. ……. (insert numbers), the receipt which is hereby acknowledged.

ii. I/We have gone through all terms and conditions of the tender document before submitting the same. I/We hereby agree to all terms and conditions as stipulated in the tender document and offer to supply and deliver …….. (Brief description of equipments) in conformity with the bidding documents in accordance with the schedule of prices attached herewith and made part of this bid.

iii. I/We undertake, if our bid is accepted, to deliver the goods in accordance with delivery period specified in the supply order.

iv. I/We agree to abide by this bid for a period of 180 (numbers) days after the date fixed for bid opening and shall remain binding upon us and may be accepted at any time before the expiration of that date.

v. If our bid is accepted, we commit to deposit a performance security in accordance with GCC clause 7 & SCC clause 2 for the due performance of the contract.

vi. Until a formal contract is prepared and executed, this bid together with your written acceptance thereof and your notification of rate contract shall constitute a binding contract between us.

vii. I/We undertake if at any time, it is found that any information furnished by us to the Rate Contracting Authority, either in our bid or otherwise, is false, the Rate Contracting Authority servers the right to terminate the contract without assigning any reasons, forfeiting the bid security or performance security and blacklisting us for a period of 5 years.

viii. I/We understand that you are not bound to accept the lowest or any bid you may receive.

ix. I/We hereby submit our tender for the _____.

x. I/We now enclosing herewith the E.M.D. No._____ dated _____.

xi. I/We have noted that overwritten entries shall be deleted unless duly cut & re-written and initialed.

xii. Tenders are duly signed (No thumb impression should be affixed).

xiii. I/We undertake to sign the contract / agreement, if required, within 15 (fifteen) days from the date of issue of the letter of acceptance, failing which our/my security money deposited may be forfeited and our/my name may be removed from the list of suppliers.

Dated this …….. day of …….. 2013.

(Signature) ……..
(in the capacity of :…….)
Duly authorized to sign for and on behalf of ……..

Witness 1

Witness 2

TABLE OF ANNEXURES

ANNEXURE – I
Ref. Clause No. 17.1 (g) of ITB

FORM OF CERTIFICATE OF SALES TAX / VAT VERIFICATION TO BE PRODUCED BY AN APPLICANT FROM THE CONTRACT OR OTHER PATRONAGE AT THE DISPOSAL OF THE GOVERNMENT OF CHHATTISGARH

(To be filled up by the applicant)

01. Name of style in which the applicant is addressed or assessable to sales tax / VAT addresses or assessment.

02. a. Name and address of all companies , firms or associations or persons in which the applicant is interested in his individual or fiduciary capacity
    b. Places of business of the applicant (all places of business should be mentioned)

03. The Districts, blocks and division in which the applicant is assessed to sales tax / VAT (all places of business should be furnished)

04. a. Total contract amount or value of patronage received in the preceding three years

    2010-11
    2011-12
    2012-13

    b. Particular of Sales – Tax / VAT for the preceding three years

Year	Total T.O. (Turnover) be assessed (Rs)	Total Tax assessed (Rs)	Total Tax Paid (Rs)	Balance due (Rs)	Reasons for Balance (Rs)
2010-11					
2011-12					
2012-13					

    c. If there has been no assessment in any year, whether any returns were submitted? if yes, the division in which the returns were sent?
    d. Whether any penal action or proceeding for the recovery of Sales tax / VAT is pending?
    e. The name and address of Branches, if any :

I declare that that the above information is correct and complete to the best of my knowledge and belief.

Signature of Applicant:
Address:
Date:

(To be filled up by the Assessing Authority)

In my opinion, the applicant mentioned above has been / has not been / doing everything possible to pay the tax demands promptly and regularly and to facilitate the completion of pending proceeding.

Date Seal : Deputy / Asstt. Commercial Tax – Officer
Deputy Asstt.

Note: A separate certificate should be obtained in respect of each of the place of business of the applicant from the deputy commercial tax officer or Assistant commercial tax officer having jurisdiction over that place.

ANNEXURE – II
Ref. Clause No. 17.1 (q) of ITB

MANUFACTURER'S AUTHORIZATION LETTER

No…… Dated……

To,

Dear Sir,

Tender No.:…….

We _____ an established and reputable Manufacturers of _____ having factories at _____ and _____ do hereby agree to supply _____ confirming to the required specification and required quantity to M/s _____ (Bidder) as offered by them to supply against the above stated Tender. This is also certified that M/s _____ is our authorized distributor / importer since _____ (month & year should filled), and his performance is satisfactory.

We hereby extend our full guarantee and warranty as per Clause 15 of the General Conditions of Contract for the supply against this invitation for Bid by the above firm.

Yours faithfully,

(name)
for and on behalf of M/s _____ (Name of manufacturers)

Note: This letter should be signed by a person competent and having authority to sign on behalf of manufacturer, and should be duly Notarized.

ANNEXURE – III
Ref. Clause No. 17.1 (T) of ITB

DECLARATION / UNDERTAKING

I/We/ M/s._____ represented by its Proprietor / Managing Partner / Managing Director having its Registered Office at _____ and its Factory Premises at _____ do declare that I/We have carefully read all the conditions of tender in Ref. No._____ for supply of equipment, floated by the Purchase Committee, and accept all conditions of Tender.

I/We agree that the Purchaser has rights of forfeiting the Bid Security and or Performance Security Deposit and blacklisting me/us for a period of 7 years if any information furnished by us proved to be false at the time of inspection and not complying to the tender conditions.

Signature of the Bidder

Name & Address in capital letters with Designation

To be duly Notarized.

ANNEXURE – IV
Ref. Clause No. 17.1(e) of ITB

PROFORMA FOR ITEMWISE LIST OF INSTALLATIONS IN LAST THREE YEARS OF THE MANUFACTURER'S

Name of the Manufacturer _____

_____

Sl. No.	Name of installed machines and model	Name of the Purchaser & address with phone number	Date of installation	Quantity
	1	2	3	4
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

Signature and seal of the Bidder

Annexure-V
Ref. clause No. 13.3(l) of ITB

ANNUAL TURNOVER STATEMENT

The annual Turnover of M/s ……. For the past three years are given below and certified that the statement is true and correct.

Turnover in Crore (Rs.)

Sr No.	Year	Turnover in Crores (Rs)
1.	2010-11	
2.	2011-12	
3.	2012-13	

Date :

Seal:

Signature of Auditor/
Chartered Accountant

(Name in Capital)

ANNEXURE-VI
Ref. Clause No. 11.1 of ITB

SPECIFICATIONS OF EQUIPMENTS

Tender No.

Sr No	Item Code	Name of Item / Equipment	Specification Required by Purchaser	Make & Model	Specification as quoted by bidder	Compliance / Deviations

ANNEXURE-VII
Ref. Clause No. 7.3 of GCC

PERFORMANCE SECURITY FORM

To: …… (Name of Purchase)

Whereas ……... (Name of Supplier)

hereinafter called "the supplier" has undertaken , in pursuance of Contract No. …… dated…… 2013 to supply …….. [description of goods and related 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 recognized bank for the sum specified therein as security for compliance with the Suppliers performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Supplier a Guarantee:

THEREFORE, WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of _____ (Amount of the Guarantee in Words and Figures) and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the Contract and without cavil or argument, any sum or sums within the limit of _____ (amount of Guarantee) as aforesaid, without needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the …….. day of …….. 2013 .

Signature and Seal of Guarantors

Date ……..……2013
Full Address of the Bank:

Telephone No. ----------
Fax No. ----------
Email Address ----------

ANNEXURE-VIII
Ref. Clause No.31 of ITB

CONTRACT AGREEMENT FORM
(Tender No._____)

THIS CONTRACT AGREEMENT made the ……day of …….. 2013 between Deputy Director (Administration), AIIMS, Raipur (C.G.) of India (hereinafter called "the Rate Contracting Authority") of one part and M/s ……. (name of supplier) of ……. (city and country of supplier) (hereinafter called "the supplier") of the other part :

WHEREAS the Rate Contracting Authority invited bids for certain goods and ancillary services viz. EQUIPMENTS (Brief description of goods" and services) and has accepted a bid by the supplier for the supply of those goods and services.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this agreement words and expression shall have the same meaning as are respectively assigned to them in the conditions of contract referred to :
2. The following documents shall constitute the contract between the Rate Contracting Authority and the supplier, and each shall be read and construed as an integral part of the contract :
    a. This contract agreement :
    b. Instructions of contract :
    c. General conditions of contract :
    d. Special conditions of contract :
    e. Technical Specifications :
    f. The supplier's bid and original price schedules
    g. The Rate Contracting Authority's notification of rate contract.
3. This contract shall prevail all other contract documents. In the event of any discrepancy or inconsistency with the contract documents, then documents shall prevail in the order listed above.
4. In consideration of the payments to be made by the Purchaser to the supplier as hereinafter mentioned, the supplier hereby covenants with the Purchaser to provide the

goods and services and to remedy defects therein in conformity in all respects with the provisions of the contract.

5. The Purchaser hereby covenants to pay the supplier in consideration of the provision of the goods and services and the remedying of defects therein, the contract price or such as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

Brief particulars of the goods and services which shall be supplied / provided by the supplier are as under:-

Sr No.	Item Code	Item Description	Unit	F.O.R. Rate per unit (Rs.)*

* The above rates are inclusive of excise duty, transportation, insurance, inspection & testing charges and any incidental charges, but exclusive of CST/VAT.

6. The prices shall be valid for one year from the date of agreement, unless revoked and thereafter for a further period as agreed upon mutually.
7. The supplier shall agree to deposit inspection and testing charges and service tax as per tender conditions, in advance by cash / demand draft, against the value of supply order.
8. The supplier shall agree to deposit 10% performance security, along with as mentioned at point no. 7 (above), in advance by FDR / Bank Guarantee, against the value of particular supply order for a period of 18 months.
9. The suppliers are not authorized to supply material directly to any state Govt. / Semi Govt. / any other organization on the rate lower than the rate contract.
10. The supplier shall supply the goods directly to the indentor / purchaser at the address given in the supply order.
11. The supplier shall raise bills directly in the name of indenting officer / purchaser against the supplies made directly by them to the indentor's satisfaction in compliance with the conditions contained in the supply order.
12. The supplier shall carefully read all the conditions of tender for supply of equipment, floated by the Purchase Committee, and accept all terms and conditions in the tender document. Signing this contract means that the supplier has read all the terms and conditions and abide by it.

IN WITNESS whereof the parties hereto have caused this agreement to be executed in accordance with their respective laws the day and year first above written.

That, in token of this agreement, both parties have today affixed their signature at Raipur.
Signed, Sealed and delivered by the

Said …… (For the RATE CONTRACTING AUTHORITY)

In the presence of: ……..

Signed, Sealed and Delivered by the

Said …… (For the supplier)

In the presence of: ……..

ANNEXURE-IX
Ref. Clause No. 13.3 (j) of ITB

DETAILS OF MANUFACTURING UNIT / AUTHORIZED DISTRIBUTORS

Name of the Tenderer & Full Address :
(Whether manufacturer / authorized distributor)

PAN number :

Phone Nos. :

Fax No. :

E-mail Address :

Date of Inception :

Equipments Manufacturing / Distribution License No & Date :

Issued by :

Valid upto :

CST / VAT Registration No. :

If bidder is authorized distributor then name, address, telephone, fax of authorized manufacturer. :

Name & Designation of Authorized Signatory

Signature of the Authorized Signatory

The details of manufacturing unit / authorized distributor shall be for the premises where items quoted are actually manufactured / stoked.

ANNEXURE-X
Ref. Clause No. 17.2 of ITB

PRICE SCHEDULE

Sr No	Item Code	Name of the Equipment / Item	Name of Manufacturer	Make & Model No.	Rate per Unit (Landed price) (Inclusive of excise / custom duty, CST, VAT, ST transportation, insurance, service charges, inspection charges and any incidental charges etc.)	Amount of Transportation, Insurance, Service charges, Inspection charges (included in quoted rate per unit)	Rate of Excise / Custom Duty (included in quoted rate per unit)	Rate of CST/ VAT/ST (included in quoted rate per unit)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

Place:

Date:

Signature
Name in Capital Letters
Designation

Note: This format of price schedule is a sample for the Bidders.

ANNEXURE-X-A
Ref. Clause No. 24 of GCC

COMPOSITE PRICE SCHEDULE FOR DETERMINING L-1

Sr No	Work	Total Cost (exclusive of Taxes)	Total Cost (inclusive of all Taxes)
1.	Supply, Installation, Testing and commissioning of 4 Nos of Modular OT on turn key basis as per terms and conditions		
2.	Supply, Installation, Testing and commissioning of Medical Gas pipeline, Manifolds, Liquid oxygen plant and vaccum on turn key basis as per terms and conditions		
3.	Provision of Man-power for O&M of Medical Gas pipe line for 1 year on 24*7 basis		
Grand Total			

Place:

Date:

Signature
Name in Capital Letters
Designation

Note: This format of price schedule is a sample for the Bidders.

ANNEXURE-XI
Ref. Clause No. 17.2 (vii) of ITB

PRICE SCHEDULE FOR ANNUAL (WITHOUT SPARE PARTS) /COMPREHENSIVE (INCLUDE FREE LABOUR, REPAIR, OTHER SERVICES & SPARE PARTS) MAINTENANCE CONTRACT (A.M.C. / C.M.C.) AFTER EXPIRY OF WARRANTY

(RATES SHOULD BE QUOTED IN PERCENTAGE OF THE VALUE OF THE MACHINE)

Sr No	SME Code No.	Name of the Equipment	For first year with spare parts & labour	For second year with spare parts & labour	For third year with spare parts & labour	For fourth year with spare parts & labour	For fifth year with spare parts & labour
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

Place:

Date:

Signature
Name in Capital Letters
Designation

Note: This format of price schedule is a sample for the Bidders. Price schedule should be submitted only in the prescribed.

ANNEXURE-XII
Ref. Clause No. 13.3(g) of ITB

DETAIL OF SERVICE CENTER IN CHHATTISGARH

S. No.	City	Name & Place of Service Center	Address, Telephone, Fax & email	No. of Service Engineer with Name / Mobile No.	Remark
1	Raipur				
2					
3					
4					
5					
6					

Name & designation of the authorized Signatory

Signature of the authorized signatory

CHECK LIST FOR TERMS AND CONDITIONS FOR EQUIPMENTS

Check list for Terms and Conditions (To be filled by the bidder and submitted along with the bid) Page No. must be mentioned against each serial.

All non notarized documents except EMD must be self attested together with official seal .

Documents	Check Yes / No	If, Yes Page No.
1. Annexure – I (Sales Tax Clearance Certificate)		
2. Annexure-II (Manufacture Authorization Form)		
3. Annexure – III (Declaration / Undertaking Form)		
4. Annexure – IV (Proforma for Performance Statement)		
5. Annexure – V (Annual Turnover Statement)		
6. Annexure – VI (Specification of require Equipments) with two additional self certified copies duly signed and stamped on each page		
9. Annexure – IX (Details of Manufacturing Unit)		
10. Annexure – X (The Price Schedule)		
11. Annexure – XI (Price Schedule for AMC/CMC)		
12. Annexure – XII (Details of Service Centre in Raipur		
13. Registration Certificate of the company with details of the Name, Address, Telephone Number, Fax Number, e-mail address of the firm and of the Managing Director / Partners / Proprietor.		
14. Authorization letter from manufacturer authorizing a person to transact a business with R.C.A.		
15. The instruments such as power of attorney, resolution of board etc., authorizing an officer/person of the bidder should be submitted with the tender and such Authorized officer/person of the bidder should sign the tender documents.		
16. Market Standing Certificate issued by the Licensing Authority as a Manufacturer / distributor for each equipment quoted for the last 3 years. In case of direct importer, evidence for importing the said items for the last three years.		
17. The bidder should also submit national & international quality certificates like ISI/CE/C ISO-9002, IP/BP etc" mark / IEC standard or equivalent certificate of quoted product, if available.		
18. The bidders have to submit name of the items, its code no. for which they are quoting in the price bid. Such names and items code of the items should be submitted along with the technical bid, failing which the tenderer's price bid will not be opened. The Bidder has to submit Name of Item and its code number.		
19. Concern / Company has (a) not been debarred / blacklisted in the past either by Rate Contracting Authority or by any State Government or Central Government Organization. (b). firm has no vigilance enquiry / CBI enquiry pending against him / supplier. (c) The firm has not supplied the same item at the lower rate than quoted in the tender to any Govt. / Semi Govt.		

or any other organization. Affidavit to this effect shall be submitted by the concern / company and should be duly notarized on 100/- Non judicial stamp paper.		
20. Original Bid Form duly signed by authorized signatory as per Section V, duly sealed and signed by the bidder on each page for acceptance of Terms and Conditions.		
21. Bidders should have the registration under Commercial Tax Authority Registration should be attached.		
22. An affidavit of the manufacturer on a Non judicial stamp paper on Rs. 100/- binding itself for supply of genuine spare parts to the purchaser for a period of minimum 5 years beyond warranty period.		
23. An affidavit of the manufacturer on a Non judicial stamp paper on Rs. 100/- that the quoted equipment is the latest model of the company matching to the specification of this tender and that it is not refurbished equipment.		
24. Certificate for being in business or more than 3 years		
25. Certificate for sole ownership / partnership.		
26. Statement of good financial standing from bankers.		
27. The printed original catalogues of primary manufacturer and any other technical documents like data sheet or operational manual of equipment with highlighting the features in portal along with the other documents. In catalogue, the quoted product no. and name should be highlighted, against which that product is quoted. These documents are also to be submitted in physical form before due date along with Bid security.		
28. In case of imported equipment IEC certificate of importer / bidder shall be submitted.		
29. A separate price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee / warrantee period.		
30. Recurring expenditure on equipments.		
31. Any other document required as per tender document.		

Turn key Project for Prefabricated Integrated Modular Operation Theatre (4 Number of OT) and Gas Plant with Medical Gas Pipe line for AIIMS Raipur

General Specifications

1. The Bidder shall have the technical service facility.
2. **An skilled person capable to attend and rectify incidental problems should be available at site round the clock**
3. The quoted equipments should have **5 years of standard warranty** which is excluding the physical damage and cost of accessories and consumables.
4. A standby unit should be available within 24 hours for any life-saving equipment in case of any problem.
5. Any calls for service related issues should be addressed on site within 1 working day from the date of information provided to vendor.
6. A list of consumables and accessories should be provided along with the tender.
7. A proper training should be conducted at the time of installation and commissioning of the turn-key project and **twice every year** for proper maintenance and functioning for all the equipments and products to respective departments.
8. The bidder shall quote for entire turnkey project as one point of contact, failing into which bidder should be liable for disqualification.
9. All the quoted equipments should be minimum CE/FDA/HTM/NFPA/NEMA/ASME or equivalent certified (whichever is applicable). The indigenous construction material quoted should be minimum ISO/ISI certified.
10. The bidder should clearly mention the make, model and other details of each and every item.
11. All equipments, parts, and accessories will be imported except copper piping, gas pump, tanks, cylinders and gas plant motors.

Job Description

JOB I - Supply and Installation of 4 no of Prefabricated Modular Operation Theatre (three at trauma building and one at Ayush building)

S.No.	ITEM DESCRIPTION per OT	QTY per OT	UNIT

1.	**Providing and establishing Prefabricated Walls & Ceilings as per attached technical description**	AS PER THE LAYOUT PLAN PROVIDED	Sq.M.
2.	**Providing and establishing Antibacterial / Anti fungus paint on OT walls as per technical description**	AS PER THE LAYOUT PLAN PROVIDED	Sq.M.
3.	**Providing and establishing Conductive Tile Flooring: ESD-Control tile Flooring as per technical description**	AS PER THE LAYOUT PLAN PROVIDED	Sq.M.
4.	**Providing and establishing Laminar Flow Air Ceiling as per technical description**	1	Nos.
5.	**Providing and establishing Pressure Dampers as per technical description**	VARIABLE	Nos.
6.	**Providing and establishing Door and Frames: Hermetically Sealed Sliding Automatic Door as per attached technical description**	2	Nos.
7.	**Providing and establishing Peripheral Lights as per technical description**	VARIABLE	Nos.
8.	**Providing and establishing the OT control Panel as per technical description**	1	Set
9.	**Providing and establishing OT distribution box as per technical description**	1	Nos.
10.	**Providing and establishing Hatch box as per technical description**	1	Nos.
11.	**Providing and establishing Scrub Station as per technical description**	1	Nos.
12.	**Providing and establishing the writing Board**	1	Nos.
13.	**Providing and establishing the Xray view box**	1	Nos.
14.	**Providing and establishing the view windows**	As per the layout plan provided	Nos.
15.	**OPERATING ROOM EQUIPMENTS**		
(i)	OPERATING ROOM SURGICAL LIGHTING SYSTEM WITH HD CAMERA AND DISPLAY, AS PER THE ENCLOSED TECHNICAL SPECIFICATIONS.	1	Nos.

(ii)	OPERATING ROOM SURGICAL OPERATION TABLE	1	Nos.
(iii)	PATIENT MONITOR	1	Nos.
(iv)	DEFIBRILATOR	1	Nos.
(v)	DIATHERMY MACHINE	1	Nos.
(vi)	SYRINGE PUMPS	8	Nos.
(vii)	INFUSION PUMPS	2	Nos.
(viii)	Anesthesia Workstation	1	Nos.
16.	**Providing and establishing the adjustable and movable Arm Pendant for Surgical equipments as per the technical specifications**	1	Nos.
17.	**Providing and establishing the adjustable and movable Arm Pendant for Anesthesia purposes as per technical specifications**	1	Nos.
18.	**OPERATING ROOM INTIGRATION SYSTEM FOR MEDICAL VIDEO, AUDIO & DATA, AS PER THE ENCLOSED TECHNICAL SPECIFICATIONS.** With Control Systems Engineering, Video, Audio Engineering and Video Conferencing AND HD RECORDING SYSTEM.	1	Nos.

JOB II - Supply and Installation of Medical Gas plant and gas pipe line

S.No.	Item Description	Qty	Unit/capacity
1	**Supply and Installation of Air Pump with tank as per attached technical specifications**	2	As per attached technical description and layout

2	**Supply and Installation of of Liquid Oxygen Plant and Supply of Liquid Oxygen.**	1	As per attached technical description
3	**Supply and Installation of Vacuum Pump with tank as per attached technical specifications**	2	As per attached technical description and layout
4	**Supply and Installation of Oxygen Manifold with automatic control and a Emergency Oxygen manifold with manual control as per attached technical specification**	2 + 2	As per attached technical description and layout
5	**Supply and Installation of Nitrous gas manifold with Automatic control panel gas manifold and Emergency Double cylinder Nitrous manifold with manual control as per attached specifications**	2 + 4	As per attached technical description and layout
6	**Supply and Installation of Distribution piping for medical gas (oxygen, Nitrous, Vacuum,Air)**	1	As per attached technical description and layout
7	**Supply and Installation of Alarm system for Medical gases for OT as per attached technical description**	1	As per attached technical description and layout
8	**Supply and Installation of Alarm system for Medical gases for Pre/Post operating room/ICU as per attached technical specifications**	1	As per attached technical description and layout
9	**Supply and Installation of bed head panel for 4 line medical gas pipe line system (oxygen , Nitrous , Vacuum , Air) for pre/post operation room outlets for 10 beds as per attached technical specifications**	1	As per attached technical description and layout
10	**Supply and Installation of modular ICU pendants for pre/post-operative room /ICU for gas supply system for 10 bedded ICU**	As per attached layout	As per attached technical description and layout
11	**AGSS system**	4	As per attached technical description and layout
12	**Electric control panel**	2	As per attached technical description and layout
13	**Accessories**	As per attached layout	As per attached technical description and layout

Technical Description (JOB I)

1. **Prefabricated Walls & Ceilings**

Pre-fabricated modular construction shall be designed and constructed for exact size. EGP sheet (1.6 mm thick) walls and ceiling panels shall be backed by 9/12 mm thick gypsum board to provide seamless operating room. The external walls of the room are constructed with solid brick and mortar and in hospital scope of work. The inner surface walls shall be constructed with at least 1.60mm thick SS sheets backed by 9/12mm gypsum board. The inner surface walls shall be fixed to the brick wall with essential supports. There shall be minimum possible cavity / gap in between the solid and steel walls. The total distance between inside and outside surfaces of OR shall be variable to suit architects' layout, but shall be sufficient for flush mounting of the equipments. The individual wall panels shall be spot welded together at equal intervals to render equal support to panels. Spot welding shall be properly grinded to make surface leveled. All joints shall be filled with metal filler and sanded flush on site, ready to receive plastic finish. The cavity between inner and outer walls shall be left with minimum obstructions for possible addition of equipment at a later date and to enable services, pipes, conduits etc., to be run within the cavity. All wall-mounted equipment shall be flush mounted and sealed into theatre. The wall panel design and construction shall allow for installation and support of all equipment and provision of openings required for the installations, without affecting rigidity and strength. Access boxes shall be fitted to the rear of all the wall-mounted equipments to enable maintenance to be carried out from outside operating room. All the sharp edges and corners shall be smoothened to avoid bacterial contamination.

2. Antibacterial / Anti fungus paint on OT walls

Supply and filling of all joints and cavities with Metallic Epoxy Filler and Sanded Flush to provide a joistless finish and then Sprayed with Water based non – reflective Liquid Plastic Aseptic and Self Sterilizing Wall coating system to minimum d.f.t. of 300microns with primer. Complete as per the detailed Technical Specification.

Description

The internal surfaces of the corridor walls should be sprayed with water based, non – reflective liquid plastic, to a color approved by the architect a minimum dry film thickness of 300microns. These plastic coatings should overlap the floor covering, ceiling system and doorframes by 25mm to provide a continuous sealed surface. Sterile Coating applied should be water resistant, does not support bacteriological or fungicidal growth and is resistant to most chemicals commonly used in hospital departments. The sterile coating should remain unaffected by radiation and other ionizing radiation at levels in excess of 1000 mrad and is classified to class I when tested in accordance with the requirements specified under BS.476: Part 7 1971,Surface spread of flame Test for Materials. The coating system should be easily maintained and can withstand repeated cleaning with alkaline detergents, antiseptics and fumigation agents without any degradation to the surface finish or performance.

3. Conductive Tile Flooring: ESD-Control tile Flooring:

Flooring : Providing & fixing 2mm thick Conductive flooring with carbon backing total thickness 2.00mm, total weight 3.000 g/m2 polyurethane reinforced ,scratch resistant, fire resistant, chemical resistant, slip resistant, antifungal & antibacterial, dimensional stability _0.40%, static electrical charger < 2Kv, impact sound reduction approx +4 bd, electrical resistant.

Installation: The flooring shall be installed on a smooth, clean sub floor which shall be free from any undulation .A copper strip / mesh shall be layer under the tiles, with one earthling point for every 150 sft of area and good quality water based adhesive for fixing as per as manufacturers recommendation. Thermal Welding: The joints shall be welded by the heat fusion process to get a seamless floor. The joints in the flooring shall be sealed by using a PVC welding bar of matching color to be supplied by the manufacturer, using a hot air gun for fusion of welding bar with flooring.

4. Laminar Flow Air Ceiling

Each modular OT shall have Plan Air Ceiling in OR. The Plan Air ceiling shall be constructed out of 2mm thick extruded aluminum sheet of size 1800 x 1800 mm having six Nos. HEPA filters with spot efficiency of 99.99% 0.3 micron. Air and light diffuser made of two layer of mono filament precision woven polyester for plan air ceiling to give a laminar flow of filtered air. All HEPA filters shall be factory tested and certified in accordance with DIN 1946 and DIN 4799. All ceiling shall include integral lighting and composite air / light diffuser. Air shall be diffused into the theater uniformly over the total area. The laminar flow ceiling should also have illumination across its total area.

It shall also provide a shadow less lighting system with control on. The intensity of luminance by using high efficiency electronic fluorescent tubes.

5. Pressure Dampers:

i) All Operation Rooms shall be supplied with multi bladed damper unit specifically designed to control room air pressures and protection the Doors shall be provided within the modular panel.
ii) Each stabilizer shall comprise of a matching slip over rear flange coated in white Polyester to RAL-9010 and exterior grille.
iii) The pressure dampers shall contain four grade 304 SS Blades which pivot upon sealed for life bearing assemblies.

6. Door and Frames: Hermetically Sealed Sliding Automatic Door

Size 1500mm x 2100mm with vision panels, 300mm X 300 mm

To maintain sterility and correct air pressure in the room, all doors into and out shall be of sliding, hermetically sealing type. Track system and door blade guide system: Track made of a patented anodized aluminum profile, size 90 x 110 mm. This rubber gasket is exchange-able. The door blade is 60 mm. thick and on both sides flush finished with hygienic hard plastic laminate. The built up of door: Anodized aluminum surrounding, 4-sided, blind fixed. Door core made of CFC-free Polyurethane or EPS, thickness 48 mm. As top layer on both sides is hard plastic laminate of size 6mm. The total door blade thickness is 60 mm flush on both sides. Frame profile: It shall be sliding door, standard delivered with an anodized aluminum angle profile. This aluminum profile is 3-sided and blind fixed to a finished wall opening. The door blade gasket shall seal the opening to this aluminum profile. Lock in the door blade: lock for a automatic operated door. There shall be electro mechanical lock mounted on the track and on both sides a key-switch on the finished wall with Euro norm cylinder and 3 keys. Automation with 2 sensors foot operation and hand sensors (magic switch):

Control: Microprocessor-controlled and regulated electromechanical sliding door drive.
Power supply: 1*230 Vac +15% / -20% or 1*110Vac +30% / -20%.
Frequency: 50 / 60 Hz and power Consumption -Minimal: 18 W and Maximal: 450 W.
Drive: 3 phase AC motor and Nominal
Motor power: 90W.
Maximal Motor power: 225 W.
Motor regulator: Microprocessor controlled motor driver.
Max. Door weight: 250 Kg and Max. Door width: 3500 mm.
Slow speed (V slow): 20 - 120 mm. / sec. and Starting speed (V start): 20-220 mm. / sec.
Opening speed (V open): V slow - 800 mm. / sec. and Closing speed (V close). V slow - 500 mm. / sec.
Pedestrian opening: 10% - 90% of the available door opening.

7. Peripheral Lights

Recess mounted IP54 Protocol, non-hygroscopic peripheral lights having compact flour cent lamp and sigma-digital ballast.

8. Surgeon Control Panel:

Control panel shall have all the controls within the theatre will be located on a membrane type control panel mounted in the theatre wall. The panel shall incorporate all the necessary controls for the correct operation and monitoring of the equipment and services within the operating theatre. The time-elapsed digital clock and real time digital clocks shall have high brightness characters. Medical gas alarm shall indicate High and Low gas pressure for each gas service present in the operating theatre and shall have an audible buzzer with mute facility. The medical gas alarms shall be connected to local pressure switches located downstream of the last isolation valves. Each control panel will be of 6 tiles and will have display for Time elapse clock, Standard Clock, Temperature and Humidity, Clean room luminaries, Telephone, Medical Gas Alarms.

9. Distribution Board

Electrical Distribution Board shall have all high voltage equipment shall be installed in a separate enclosure. The remote cabinet shall house the operating lamp transformers, mains failure relays, electrical distribution equipment and circuit protection equipment for all circuits within the operating theatre. All

internal wiring shall terminate in connectors with screw and clamp spring connections of the Clip-on type mounted, on a DIN rail. Individual fuses or miniature circuit breakers shall protect all internal circuits.

10. Hatch box:

The Hatch should be provided in each operation theatre to remove waste materials from the operation theatre to dirty Linen area just adjacent to Operation Theatre. Each Hatch should be equipped with two doors and the door should be opened one at a time. The Hatch should be designed in such a way that only one door should be opened at one time. The UV light should be so installed that it is kept on while both the doors are closed, this UV light has to be automatically turned off in case of opening of either of the doors. There shall be indicators on both side of OT so that door open/close status can be monitored from both ends.

11. SS Scrub Sink

a) Scrub stations for each operation theatre shall be designed to ensure that surgeons and staff can undergo a thorough aseptic scrub, whether using the count stroke or timed scrub methods.
b) SS Scrub machine shall have free stations scrub with water shower, soap solutions and scrub solution dispenser.
c) Each fixture shall be fabricated from heavy gauge, type 304, stainless steel and shall have seamless welded construction polished to a satin finish
d) The cabinet interior shall be sound dead-end with a free resistant material. The unit shall be designed to be installed on the wall using a mounting carrier.
e) The Scrub sink shall be provided with a front access panel which is easily removed for access to the water control valves, waste connections, stops and strainers.
f) The Scrub sink shall have a sloping bottom surface to minimize splashing and 1½" OD tail piece with a 3" fl at strainer drain.
g) Hands free operation includes infrared sensor with a built-in range of adjustment. User definable settings of 3, 6, 12, 30 and 45 seconds, 1, 3, 5 and 10 minute are available
h) A thermostatically controlled mixing valve automatically maintains water.
1) Temperature, not to exceed 1150F (460C).
2) Automatically shut off if the hot or cold water supply fails.
i) It shall have a foot / knee operated facility.
j) The water shower shall be regulated through electrically operated solenoid valves activated by any switches
k) Scrub system shall have
1) 2 Bay Scrub sink made out of 304 graded brushed finished stainless steel, 1600 mm length, with photo electric sensors, 1 No. mixture valve 2 Nos. solenoid valves with foot operated switch.
2) The Scrub sink shall be provided with a front access to the water control valves waste connections and strainers. It shall have a slopping bottom surface to minimize splashing.
3) A thermostatically controlled mixing valve to maintain water temperature.

12. Writing Unit / White Board:

The writing unit shall comprise of flush mounted 1.5 mm thick, white laminate board, bonded to a 40 mm high density fireboard sheet for additional rigidity. The unit shall be opened to create a wall mounted writing surface within the operating room. The white board shall be constructed from 1.6 mm thick, white laminate board.

13. X-ray Viewing Screens:

The operation theatre shall be equipped with double X-ray film Viewing LED Screen, designed to provide a high level of control luminance without flicker. It shall be equipped with loaded clips to secure the X-ray negatives when in use.

14. View Window

Two no. of view window of specified size has to be provided with each operation theatre,

Double insulated fixed glazing with not less than 5mm thick toughened glass on both the sides with 12 mm air gap. Window frame is powdered coated Aluminum of approved shape flush Mounted with wall paneling. Motorized horizontal Venetian Blinds of powder coated Aluminum strips of vista level or equivalent of approved shade including necessary accessories. The motor is of reputed

brand approved by Engineer – in – charge. Venetian blinds should be motorized with the following features Power: DC 24 V, Diameter: 25mm, Torque: 0.7 Nm, Speed: 34rpm

15. Operating Room Equipments

I.	**OPERATING ROOM SURGICAL LIGHTING SYSTEM WITH HD CAMERA AND DISPLAY, AS PER THE ENCLOSED TECHNICAL SPECIFICATIONS.**

Should have the following Key Features:-

- The light shall adopt latest LED technology to create a homogenous light patch without emitting any infra rays.
- The light should have variable color temperatures of 3800k-4800k (changeable during the surgery depending on the surgeon's choice)

- The light system shall be double light heads
- The light intensity shall be adjustable at least between 25%-100% and at least 20 different levels.
- The light shall be with 3 lighting modes for different surgery requirements, including general lighting mode, full lighting mode and ambient lighting mode for minimally invasive surgery.
- The light shall be mountable to ceiling from a single centre. Light head bearing the arms shall be rotatable 360 degrees around its own axis and mounting point. Each Light head shall be rotatable at least 300 degrees around its own axis.
- It should have the thickness of the light head shall be no more than 50mm.
- It should have facility to replace each LED individually with the new one to save cost in case of failure, instead of replacing the module with several LEDs.
- It should have LFL lens combination and have the primary optics which guides the light in a coherent light
- It should have flow optimized light head and reduced surface temperature of dome to minimizes turbulences in laminar air flow
- It should have the temperature increase on surgeon head less than 1 degree C and temperature on surface light head >37 degree C
- It should be supplied one sterile suspension handle
- It should be supplied with remote control panel.
- It should be have HD camera system of equal to or more than 2 million pixels on swivel arm which should be able to be rotated 360deg.
- It should also have a facility to have swivel arm for slave monitors where the camera output and slave monitoring should be provided.
- Two medical grade monitors for slave monitoring and camera output should be fitted on swivel arm with light.
- Wireless Remote control system should be provided to operate and control the intensity of light and zoom of camera so that surgeon does not have to touch the control again and again.

- Intensity Range (Lux)	100-160K
Diameter of light head	60-90 cms (main dome)
Diameter of light head	18 cms- 62 cms (satellite dome)
- Life time of light source (h)	more than or equal to 40,000 hours
- Light Field Diameter (mm)	190-280 mm or more
- Depth of Field L1+ L2 (mm)	more than or equal to 800mm
- CRI (Color rendering index)	95 or more
- R9(Color rendition index)	90 or more
- Light Sources LED (no)	48-100
-Light Head Power Consumption	Not more than 200w at 24VDC
- Radiant Energy	3,4m W/m21x

- Temp increase at surgeons head	< 2 deg
- Temp increase at Operational Area	Approx. 10deg
- Certification	UL/CE
- Working Area from/to (mm)	600-1500
- Adjustment of Spring Arm (mm)	1178 or more
- Laminar Flow Index	27
-Laminar Flow Class	4.1
- Power Supply-Primary (V)	90-240

ii)OPERATING ROOM SURGICAL OPERATION TABLE

Table should have ISO certification also.

General Description

Table should be floor mounted and fully washable to be installed by supplier/alternatively a lockable mobile table rates are also to be provided.

- The table top should be 100% radiolucent material & X-Ray access.
- 5 sections table plate
- Mattress should be Decompression Mattress
    - The table pad should be double layered and not soft but can be molded by the figure of the patient to deliver even counterforce and reduce the possibility of ulcer, and it should be water-proof and anti-static material and can be washed by water directly; each joint should be sealed by ultrasonic not glue and sewing.
    - The thick of the mattress should be more than 75mm
- It should be have 3 control models including remote panel, backup panel and foot switch
- It should have a battery inside the table, which can work 50-80 operations for two weeks and the battery should be standard configuration.
- 100% Kidney Bridge position should be obtained without moving the patient, thru' remote control by using extension/break function.

- It should have electric longitudinal shift function not less than 200mm towards head side.
- It should have electric longitudinal shift function not less than 100mm towards foot side.
- It should have a build-in elevator.
- The rails & the column of the table should be made of high level of aluminum alloy.
- **Technical Specification**
    - Length of the table ≥2060 mm
    - Width of the table with rails ≥590 mm
    - The thickness of mattress ≥ 75mm
    - **Electric Function**
        - The lowest position ≤ 720 mm
        - The highest position ≥ 1070mm
        - Longitudinal shift ≥ 300 mm
        - Turn left ≥ 25°

- Turn right ≥ 25°
- Trendelenburg position ≥ 30°
- Reverse Trendelenburg position ≥ 30°
- Back plate up position ≥ 80°
- Back plate down position ≥ 40°
- Flex position ≥220°
- Re-flex position ≥ 110°
- "0"position by one electric button

- **Mechanical Function**
  - Head plate up ≥ 45°
  - Head plate down ≥ 90°
  - Build-in elevator ≥ 120 mm
  - Leg plate up ≥ 20°
  - Leg plate down ≥ 90°
  - Leg plates spread ≥ 180°

Following accessories should be supplied with Table

Orthopedics

- Orthopedic radiolucent extension
- Trolley for the whole accessories
- Three piece of pelvis plate(assorted sizes) with radiolucent material
- Adaptor for connecting the pelvis plate with the operating table
- Two counter traction post
- Two leg support preferably at floor level
- Two traction screw device with support bar
- Two traction boot
- A pair of Elongation bar with articulation combined the long side with short side.
- Other accessories for prone position of orthopedics
- Gel material intervertebral disc operation pad for column operation
- A pair of gel material heel pads
- One piece of gel material face support

Gynecology & Urology

- A pair of arm boards with 2 clamps & 4 bands, and it has the universal coupling for up & down & rotary function
- Anesthesia frame with 2 tubes & 1 clamp
- A pair of leg supports with 2 clamps, pads & bands, and it has the universal coupling for up & down & rotary function
- Disposal basin for waste
- 1 Body strap with Velcro
- A pair of shoulder support with 2 clamps
- Pubic support with pad & clamp
- Sacrum support with pad & clamp
- One piece of gel material pad for arm in lateral position
- One piece of gel material horse shoe pillow

ENT & Neurosurgery

- A pair of arm boards with 2 clamps & 4 bands, and it has the universal coupling for up & down & rotary function
- Anesthesia frame with 2 tubes & 1 clamp
- Head support with divided version pad & adaptor connecting with the table

- **Other accessories**

Operating table top for Babies and Infants to be fixed on the main Table	1(only for one operation theatre)
Lithotomy leg holders "Geopel type" (adult and paediatric)	2 set each
Back support	1 pair
Disposable basins for waste	2
Gel material horse shoe pillow	1
Gel material pad for arm in lateral position	1
Body strap with velcro	3
Anaesthesia screen	2
Clamp, rotary	4 pc
Clamp, circular	4pc
Accessories stand, mobile on castors	1pc
Arm support, perplex	2pc
X-Ray cassette tray	1pc
Accessories for Beach chair position with shoulder module for shoulder surgery	1pc(in one set)
Attachments for all neurosurgical procedures including *spinal frame*	1 pc(in 2 sets)
Arrangement for genu-cubital position	1 pc (in one set)
Carbon fibre ortho attachments for interlocking nailing etc attachments/table top	1 pc
Carbon-fiber module for orbital (360°) C-arm access	1 pc
Orthopaedic extension device for trauma surgery.	1pc(in one set)

III. PATIENT MONITOR

- Should have the facility of monitoring ECG, RR, SpO2, NIBP, Temp, Four independent IBP and EtCO2 for Adult, Paediatric & Neonatal applications.
- **Should have twin temperature monitoring sites-nasopharynx/rectal/skin probe.**
- **Depth of anaesthesia monitoring module should be available.**
- Should have integrated color TFT display of atleast **12"** or more with touch screen , touch buttons should not be acceptable.
- Should have facility of viewing at least 8 waveforms simultaneously.

- Should have detection facility for advanced arrhythmias like Ventricular tachycardia, Ventricular fibrillation, Vent run, R on T PVC's, Ventricular Couplet, Ventricular Bigeminy, Ventricular Trigeminy, Ventricular Rhythm, Multifocal PVC's **along with ST segment changes.**
- SpO2 Technology Should be Massimo Set for Motion Art effect free and low perfusion measurement
- Should have facility of drug dose calculation and Oxy-CRG trend.
- Should have non – volatile Graphical & Tabular trend facility for at least 120 hrs
- Should operate independently on both mains and battery.
- Should have alarm limits with alarm levels and alarm indication (visual as well as audio)
- 5 lead ECG measurement and simultaneous monitoring of two temperatures
- Monitor should have Wi-Fi facility for wireless communication with Central Nurses station meant for connecting / monitoring simultaneously 8 or 16 monitors.
- Monitor should have built in Electro Surgical Unit & Defibrillator protection.
- **Rolling stand or wall mounted facility**
- **Data interphase to PC**
- **Should have atleast 10 modules slots available when used with satellite module rack.**
- **Should have intelligent cooling system for uninterrupted running.**

Unit should be supplied with following accessories:

- 5 lead ECG cable with disposable electrodes – 10 no of disposable electrodes
- NIBP CUFF- adult ,Paediatric and Neonatal
- Temp probe 2 no one for skin and one for rectal
- SpO2 PROBE – 3 no of Original Masimo SpO2 probe for adult ,pediatric and neonatal
- Monitor should have an optional facility for 12 lead ECG & CO with Thermo dilution method.
- It should have 2 sets of Dual IBP cable for 4 channel monitoring of IBP with 4 no of IBP transducer kit.
- **Optional memory card for data storage.**

IV. DEFIBRILATOR

- It should be compact 4-in-one integrated design: monitoring, Manual Defib, AED and pacer.
- It should have degree of protection against dust and water ready to be used in different environments
- It should have Defibrillation, Synchronized cardio version and AED with IndACTM Biphasic Technology, more effective but less energy to protect heart
- It should have 1-2-3 step guidance for fast and safety defibrillation
- It should have wide range of output energy (1~360J) suitable for different patients
- It should have Rapid charging time saving for every rescue

- It should have 7“ TFT or more large display with up to 3 traces or more
- It should have monitoring facility of ECG, RESP, SpO2
- It should have large power capacity with 1 Li-ion batteries
- 2.5 h’ or more continuous monitoring
- Machine should be able deliver 100 shocks or more from battery power
- 2.5 h’ or more pacing and ECG monitoring
- It should have Quick buttons for user to access common used functions
- It should have powerful data storage, without concern about losing information
  Minimum 100 patients’ profiles
  Minimum 1000 events for each patient
  Minimum 24h consecutive ECG waveform storage
  Minimum 72h tabular trends
- It should have easily output patient data through plug-and-play USB flash drive
- It should have centralized alarm and configuration settings
- It should be compact, light-weight special for both hospital and clinics application.
- **Charging from 0 to 200 joules should take less than 3 seconds**.
- **Should have quick ECG waveform recovery after shock within 3 seconds**.
- **Paddle cord length should be 2 meters or more**.
- **Paddle contact impedance monitoring should be there**.
- **Energy limit should be 50 J for internal paddles with output waveform i.e biphasic truncated exponential power.**
- **Automatic internal discharge should be available atleast in 5 ways.**
- **Adapter for internal defibrillator.**

V. DIATHERMY MACHINE

- An integrated system with 300W output generator and touch screen Monopolar, Bi-Polar (cutting and under water cut) and Vessel Seal System in-built into it.
- Frequency of HF 350 KHz +/_ 50KHz
- The system must be micro-processor controlled which should identify the tissue type with a feed-back of 3333 times /sec.
- Bipolar coagulation with manual and auto start mode.
- The system should have a touch screen control panel for power setting and other functions
- System should have 2 monopolar output, 1 Bipolar output, 1 endoscopic monopolar output and 2 Vessel Sealing output.
- The Monopolar output must have Cut, Blend, “Hemostasis with division (HWD)”, Fulgurate and Spray mode.
- The system should have facility for two monopolar outlets for simultaneous working , and

one open instrument channel with universal adapter to connect any other instrument of laparoscopy .

- The Bi-Polar must have Low, Standard and Macro mode with Auto Bi-Polar control.
- System should have separate monopolar, bipolar & Vessel Sealing foot pedal.
- Whole unit must be comfortably placed on a trolley designed to house the machine.
- The system should have two different Vessel Seal outputs which should seal Vessel, Tissue bundle up and maximum 7 mm (USFDA certificate for the same should be provided), and can withstand up to 3 times of normal systolic blood pressure.
- The Vessel seal system should be of minimum of 150W with bar control power setting facility.
- **Surgeon should have the facility to control the power from the sterile zone with a sliding control 3- button hand switching device**.
- System should be compatible of REM polyhesive contact quality monitoring system.
- System should have audio-visual alarm facility, to indicate any breakage of direct contact between the patient and patient plate.
- All open surgery including head and neck and thyroid can be precisely controlled with very less thermal spread by using sealing technique.
- Integrated seal and cut of 10 mm and 5 mm should be there.
- System should have 5 mm Electrical dissecting device with option for with and without cutting facility for laparoscopic use.
- System should have additional 5 mm Electrical instrument with Blunt tip for safer and faster procedure.
- Both Footswitch and hand control mode should be available.
- System should have both reusable and disposable open surgical instruments for Vessel Sealing purposes.
- System should be Compatible with Argon Coagulator.
- System should be US FDA approved.

Accessories

1. Silicone patient plate (pediatric and adult) – 2 each
2. Monopolar forceps with hand control and accessories-10 each
3. Bipolar forceps(straight long, straight short, bayonet) with accessories-2 each
4. Double paddle foot switch with cable -1
5. Bipolar foot switch - 1
6. Power cord to connect to diathermy machine (if not in build) able to fit in Indian type of electricity socket.
7. Clamps for open surgery seal safe technique reusable should be useful for 100 – 200 cycles
    a. Clamp curved length 18cm
    b. Clamp curved length 23cm

8. Bipolar scissors for open surgery(optional)
Reusable should be useful for 100 – 200 Cycles
    a. Bipolar Scissors Curved 23cm
    b. Bipolar Scissors Curved 21cm

9. Monopolar diathermy accessories for open surgery

- Electrode Handle with 5m cable
- Electrode set of 5 consisting of
- 4mm Lancet Electrode straight
- 4mm Knife Electrode
- 4mm Needle Electrode
- 2mm Ball Electrode
- 4mm Ball Electrode

10. Some other accessories for open surgery

LANCET ELECTRODE FOR OPEN SURGERY
Working Length should be 40 mm
Lancet Length should be 14 mm
LANCET ELECTRODE FOR OPEN SURGERY
Working length should be 40 mm
Lancet length should be 14 mm
NEEDLE ELECTRODE FOR OPEN SURGERY
Working length should be 40 mm

VI. SYRINGE PUMPS

- **Should conform to IEC specification/US FDA/CE certification.**
- Fully microprocessor controlled surveys all operating and alarm parameters.
- **Should be suitable for versatile bedside/transport/emergency purposes.**
- **Should be compact and light weight design with durable handle for easy portability.**
- User Friendly single knob operation.
- Mains cum Battery operated with built in battery and charger.
- Simple start function by selecting syringe size and entering the flow rate.
- Accepts syringe size of 5ml to 50ml (**should have automatic syringe size recognition.).**
- Wide range of flow rate from 0.1 ml/hr to 100ml/hr (5 ml syringe) ,0.1ml/hr to200 ml/hr (10ml syringe), 0.1 to 400ml/hr (20ml syringes) or 0.1 to 1200ml/hr (50/60 ml syringe), 0.1 to 300ml/hr (10ml), 0.1 to 400ml/hr (30ml), 0.1ml to 1500 ml/hr (50 ml syringe**) (with resolution of 0.1 ml/hour)**
- Infusion can be programmed in rate mode(ml/hr) or time mode (sec) and should have facility for flow body weight mode infusion.
- Should have single pressure level setting. **should have occlusion detection with more than 3 pressure levels**
- Display of infusion parameters in various units (ml/hr, mg/hr, mg/kg/hr, ug/kg/hr, ug/kg/min)

- Delivery of fluid at quick rate using manual bolus facility
- Bolus rate of 1200ml/hr using 50 ml syringe and 400ml/hr using 20ml
- Display of vital parameters like rate of infusion volume infused and time of infusion on the backlit LCD display.
- Audio and visual alarms to indicate, near end infusion, syringe empty, end of infusion, low battery, insert syringe, mains off, etc.
- Fluid entry proof control panel to avoid damage to interior circuitry and malfunctioning of the pump.
- Automatic storage of last setting of infusion parameters
- Battery back- up : minimum 2 hour with continuous running
- **Should have software upgrade facility in future.**

VII. Infusion Pump

- Fully microprocessor controlled surveys all operating and alarm parameters.
- It should have door free design
- Safety features like **KVO, air bubble detector, alarm and drop detector**.
- Mains cum Battery operated with built in battery and charger.
- Flow rate range 1ml/hr to 2000 ml/hr
- Infusion increments 0.1 ml/hr
- **Bolus rate –0.1- 1200 ml/hr**
- Accumulated volume -0.1ml to 9999.9 ml
- **KVO rate - 0 .1 ml/hr to 5.0 ml/hr**
- Infusion accuracy ±5%
- Infusion can be programmed in rate mode(ml/hr) or time mode (sec) and should have facility for body weight mode infusion.
- Display of infusion parameters in various units (ml/hr, mg/hr, mg/kg/hr, ug/kg/hr, ug/kg/min)
- Delivery of fluid at quick rate using manual bolus facility
- Display of vital parameters like rate of infusion volume infused and time of infusion on the backlit LCD display.
- Audio and visual alarms to indicate, near end infusion, syringe empty, end of infusion, low battery, insert syringe, mains off, etc.

- Fluid entry proof control panel to avoid damage to interior circuitry and malfunctioning of the pump.
- Automatic storage of last setting of infusion parameters
- Battery back- up : minimum 5 hour with continuous running
- **Should have Occlusion pressure from 100 to 1000 mmHg with 10 adjustable steps with no flow interruption.**
- **Memory for history should have 100 events in real time.**

VIII. Anesthesia Workstation

The Anaesthesia work station system, duly CE marked, should consist of:

- Anaesthesia machine with vaporizers, integrated anaesthesia ventilator and Closed Breathing System **pendent mounted and machine should be compatible with the specifications of the pendant .**
- The Machine, Ventilator, and vaporizer and all modules should be of the same manufacturer.
- **Data interface should display amount of gas used, oxygen concentration variation, inhalation gas %**

Anaesthesia machine with vaporizers:

- Rigid construction and design with standard frame mounted on antistatic twin castor wheels with front brakes and full length side rails on both sides of the frame to facilitate mounting of accessories/monitors.
- One spacious drawer, integrated suction (venturi operated), auxiliary Oxygen flow-meter for mask O2 delivery without going through the main rotameter, integrated active AGS system should be supplied as standard.
- Gas specific (pin indexed) Yokes – one for oxygen, and one for nitrous oxide to accommodate 5- liter water capacity cylinders.

- Provision to connect oxygen, air & nitrous oxide directly to system with non-interchangeable pipeline supply inlet for each gas & separate pressure gauges for each gas on front of the machine.
- Flow meter assembly with dual cascading rotameter for O2 & N2O, single or dual for Air
- Auxiliary fresh gas (ACGO) outlet with ISO type 22mm & 15mm connector for using with open circuit/bains circuit.
- Entire unit should be mounted on pendent.
- System should have active AGSS facility
- System should have suction unit as well

Safety features should include:

- Automatic Cutoff of Nitrous by Oxygen Pressure failure along with hypoxic guard for linear regulation of minimum O2 concentration at 25% volume.
- Oxygen flush, which is able to deliver at least 30-70 liters per minute of oxygen.
- Air/N2O interlock for enabling or disabling air or N2O & activating as per requirement
- Oxygen failure alarm
- Bi-stable change over switch from closed circuit to open circuit & vise-versa

Integrated breathing system should include

- Single canister integrated circle absorber with unidirectional insp. & exp. Valves free from Gravity and sticking and airway pressure relief valves along with integrated ascending bellow unit.
- It should not have multiple tubing connection from anaesthesia machine & closed circuit system.
- It should have facility for changing the soda lime inter-operatively with soda lime capacity of about 900 gm.
- Fully integrated Circle absorber system for adult as well as pediatric patient category with the same bellow unit.
- It should have an autoclavable base block & should not require any tools when dismantled for cleaning & sterilization.

Vaporizer:-

- The Vaporizer should be of the same manufacturer of anesthesia workstation .
- Machine should connect two vaporizers at a time with interlocking facility.
- Two vaporizers for Isoflurane and Sevoflurane should be supplied with the machine.

- Vaporizers flow should be temperature, and pressure compensated and maintenance free for a minimum of 05 years.
- **Should be Tec 7 vaporizers**
- **The machine should be capable to receive vaporizers from other companies**.

Integrated anaesthesia ventilator

- It should have an integrated color TFT screen of at least 8" size for display of ventilation parameters
- Microprocessor based, Electronically controlled and pneumatically driven should not require change of bellows for adult and infants.
- It should have following features.
    a) Modes – VCV, PCV,PSV,SIMV, spontaneous, manual mode should be provided , so that reversal complications can be handled in the OR itself.
    b) Tidal volume range 20 ml to 1500ml.
    c) Integrated PEEP variable electronically up to a minimum of 20 mbar.
    d) Adjustable breath rate 4-80 bpm, I:E. ratio 3:1 to 1:8
    e) Variable Inspiratory pause
    f) It should give use a choice of doing a leakage and compliance test as and when required.
    g) On start up the machine should give user a choice of doing self-diagnostic test or bypassing in case of emergency
    h) Tidal volume compensation for losses due to compression/compliance and compensation for FGF.
    i) Should be suitable for low flow techniques.
- Alarms should have audiovisual display of alarm messages for tidal volume, minute volume, Inspiratory O2 concentration, audio power supply fail alarm, fails to cycle warning, airway pressure alarms for high and low pressures, Apnea alarm.
- In built battery backup facility for up to a min. of two hours.
- Self – diagnostic facility to check the overall system including ventilator for leakage.
    Should be supplied with gas module which should be able to monitor O2/N2O/CO2 and should automatically recognize the anesthesia agent - halothane/enfurane/isoflurane/desulfurane/sevoflurane, and should display the same on main screen**, Should display calculated MAC value**

16.Adjustable and movable Arm Pendant for Surgical equipments

The Ceiling Pendant shall comply with HTM2022/NFPA 99 USA. The Ceiling Pendant Systems shall provide convenient positioning of medical equipment, medical gas terminal units, electrical and specialty services. The pendant shall be mounted to the ceiling with extremely robust carcass system comprised of stainless steel flanges and supporting rods and revolve on high quality bearings so that the pendent head glides smoothly and quickly to any desired position. Pendant arm shall be electrostatic powder painted. The medical rail profiles shall have an anodized finish.

Installation

Single base, 190-210 mm, light/medium duty

Suspension arm & suspension tube

Light mechanical arm, single, l=500 mm, gross load capacity: 290-320 kg

Suspension tube, l=800 mm, it is for light or medium mechanical arms only, able to adjust height (vertical movements around 600 mm) with control button.

Distribution

Distribution column l=500mm

Accessories

Platform , size, 450- 460 mm (w) x 500 – 520 mm (d) with capacity not less than 30 kg - 3 nos

Drawer – 1no

Normal handle, without control button

Electric sockets

Electrical outlet, three contacts, for India (5A/15A combined) - 6 no

Rj45 outlet, without wire- 2 no

Equipotential outlet, green and yellow - 4 no

Other

Oxygen outlet -2 no

Medical vacuum outlet - 2 no

Air (4 bar) 1 no

Air (7 bar) 1 no

Provision to fit LCD/LED TV monitor of 36 cm size with monitor support with its height-adjustable, gas-pressurized spring arms and height-adjustable bracket helps to optimize workplace configuration

17.Adjustable and movable Arm Pendant for anesthesia equipments

The ceiling pendent should comply with international standards/ guidelines. The support should be extremely robust and revolve on high quality bearings so that the pendent head glides smoothly and quickly to any desired position.

The Pendant should be available as follows:

- 1000 mm + 800mm moveable arms each with 340 deg. Horizontal and vertical movements. Vertical movement should be motorised and allow movement to a height greater than 6.5 feet above floor level.
- Light carrying capacity of the arm should not be less than 200 Kgs. Should have electromagnetic brakes.
- Each arm should be capable of 300-340 degrees of rotation, which can be easily adjusted to suit the desired mode of operation.
- The pendant should be CE/ UL Listed marked.
- The arms may be fitted with pneumatic brakes to prevent inadvertent movement.
- The Pendant Service Heads should be modular with 400mm head. The heads should be capable of accepting a range of shelves, and infusion poles or other accessories. The Pendant Heads should support the range of Physiological Monitor Mounting Solutions.
- The Pendant Service Heads should be supplied with medical gas terminal units and 5/15 Amps. Sockets.

Each pendant should have:

- Oxygen Outlets– 2
- Nitrous Oxide Outlet – 2
- Air (4 bar) Outlets– 2
- Vacuum Outlets– 2,
- CO2 –
- 1, AGSS-1,
- Nitrogen-1
- Electrical Sockets - 6 nos.
- Shelf with two rails one on each side – 1 no.
- Monitor input & Output – 1no.

The Pendant should be available as follows:

- 1000 mm + 800mm moveable arms each with 340 deg. Horizontal and vertical movements. Vertical movement should be motorised and allow movement to a height greater than 6.5 feet above floor level.
- Light carrying capacity of the arm should not be less than 200 Kgs. Should have electromagnetic brakes.
- Each arm should be capable of 300-340 degrees of rotation, which can be easily adjusted to suit the desired mode of operation.

18. Operating Room Integration

Description: The system should act as central connection point for all audio/video/data communication within the operating room wherein it manages multiple video types & information exchange while offering device control from the same touch-panel and should enable display of any image from any source to any destination in the operating room or outside the operating room.

Audio Video Streaming: should have facility for streaming of video signals from OR to nurse station and bidirectional audio signals.
Integration of equipments: it should have facility to integrate all the equipments and should also have facility for PACS and other images display.

DOCUMENT FOR SUPPLY, INSTALLATION AND COMMISSIONING OF GAS PIPELINE AND MANIFOLD SYSTEM (INCLUDING OR)

ALL INDIA INSTITUTE OF MEDICAL SCIENCES, Raipur

Technical specifications of Centralized Medical Gas Pipeline system and manifold room

Bidder can survey the site and the areas to be covered for installation of various gas pipelines
Bidders are required to submit bill of quantity (BOQ)

The system comprises of

1. Liquid O2 supply system and O2 manifold with fully automatic O2 control panel including O2 flow meters and humidifiers
2. Nitrous oxide manifold
3. Vacuum (suction) supply system for O.T, CT Scan unit, triage area, ICU and Ward with Vacuum units
4. Air Compressors
5. Distribution piping
6. Alarm System
7. Pendants and bed head panel
8. Outlets (**Trauma building**: O2 outlets 90-95; Air outlets 80; Vacuum (suction) outlet 85; Nitrous oxide outlet 7; CO2 outlet 4)
9. AGSS

	RESPONSIBILITY OF BIDDER
	Bidder shall be responsible for complete design, construction and commissioning.
	Bidder shall execute all required masonry, electrical, plumbing, air-conditioning system, fire safety and other works as maybe required for complete installation and trouble-free functioning as a part of the 'turnkey work'
	The contractor shall be responsible for the complete works including the submission of Working Drawings, and walk through view.
	Bidder shall be responsible for installation and commissioning of medical equipment in coordination with hospital authorities
	Bidder shall be responsible for free maintenance of Gas pipeline system and manifold during warranty period.
	Bidder shall be responsible for commissioning of Medical Gas lines, Area valve service units, Alarm systems, Gas outlets**.**
	Bidder should provide factory test certificates for the material used.

	Bidder should supply complete set of parts manuals, service manuals for all the systems and subsystems to be supplied
	Training for a week at the factory or at AIIMS to the selected staffs and engineers has to be provided by the Bidder if selected.
	Bidders' composite valuation should show the amount that will be paid to personnel's for manning the manifold and liquid oxygen plant for a period of one year. The bidder shall be responsible for effective, uninterrupted running, functioning and maintaining all the manifolds, liquid O2 plant, and vacuum for a period of one year after commissioning(As required under conditions of turn-key project). The same arrangement may continue for four years at the same terms and conditions if approved by the AIIMS director. The decision of the Director shall be binding.
	Final electrical safety test, system test, and calibration should be done by authorized persons using calibrated test equipments
	Bidder or his authorized agent should post a trained engineer who should be available at site or should reach the site within 24 hrs of raising a service call.

Oxygen supply system

1.1 Liquid Oxygen supply system

Liquid oxygen will be the primary (main) supply source and the oxygen manifold will work as standby. In case of failure in liquid oxygen supply, The O2 supply system should automatically switch over to O2 manifold. The unit should have minimum capacity of 10000 liters and should have provision for further up gradation. Unit should be of latest version.

The unit should consist of a double walled vertical vessel (made of stainless steel and carbon steel) for outdoor installation capacity.

It should be fitted with standard accessories as minimum and should have undergone standard inspection requirement. A certificate to that effect has to be submitted. (Should follow international or equivalent Indian Standard)

1.1.1 SCOPE:

- **Supply and installation of Vacuum Insulated Evaporator (VIE)** -1 No with Atmospheric Vaporizing Coil (AVC). Required pipe line including necessary accessories like isolation valves, non-return valves, line regulators etc to be supplied. Essential inter connection to the manifolds (2 No) through automatic change over control should be provided.

- The vendor should supply liquid medical oxygen at site without interruption to meet the continuous demand of the hospital. The vendor should quote the cost of gas per m3 (cost of gas +

transportation Charges to the site from the nearest manufacturing unit)

Scope of Responsibility of the Vendor

- The vendor should transport the liquid medical oxygen, VIE, AVC, pipes, regulators, accessories, support etc as required to the site.
- Necessary maintenance of the LMO tank, VIE, AV coil, controllers etc is the responsibility of the supplier.
- The vendor should liaise with the Chief Controller of Explosives, Nagpur to get the essential safety clearances. Service charge required for this should be quoted clearly.

1.1.2 Product and Service Specification:

- Proposed capacity of the liquid oxygen storage tank is 10 kilo liter.
- Gas outlet pressure to be maintained at 4.2 kg/cm2.
- The space available for installation would be approximately 10m x 15m with easy access for tanker. The area would be protected by fence around, well lit by sodium vapor lamps and marked with proper signage.
- Indication of liquid oxygen level and outlet gas pressure should be provided.
- Automatic change over should be provided at two manifolds to facilitate automatic take over by manifold when the supply from the Liquid Oxygen supply system drops below accepted level.

1.1.3 Specification of Components Product:

The liquid medical oxygen (LMO) supplied at site should be of IP grade. The LMO supplied should comply with all relevant SMPV regulations and standards under the preview of the Drugs and Cosmetic Act rules. They should also satisfy the IP 2007 specifications.

- **Storage Tank Specifications**

- The storage tank and the vaporizer coils should be designed as per the ASME specifications.
  The cryogenic vessel will be of cylindrical shape
  It should be supplied with vaporizer and the pressure control manifold.
  It should be provided with the essential components to fill the liquid, to build up pressure, to relieve pressure, to withdraw product and to evacuate the vessel.
- All protective, safety and alarm provisions mandatory to Liquid Medical Oxygen plants should be supplied.

The requirement of the Cryogenic Vessel should be:

1. Configuration: Vertical
2. Inner vessel maximum allowable working pressure: 10 kg/cm2
3. Inner vessel hydrostatic test pressure: Greater than 14 kg/cm2

4. Outer vessel material of construction: Carbon steel

- **Storage Tank Capacity**

The vacuum insulated evaporator vessel should have a capacity of 10 kilo liter. The AV coil should have adequate capacity to handle the gas flow requirements of the hospital.

- **Vaporizer Coil**

1. Maximum operating Pressure: 20 kg/cm2
2. Design Pressure: 22 kg/cm2
3. Pneumatic test Pressure: Greater than 24 kg/cm2
4. Inlet temperature: -196 to +40°C

The area allocated is approx. 15m x 10m.
The fence, foundation, lighting, signage, approach gate etc are to be designed and installed by the vendor. Required engineering/consulting support in this regard can be provided by the hospital

1.1.4 Payment /Measurement of delivered quantities

Quantity of liquid oxygen delivered is determined by the difference in weight of the tank before and after the delivery of the gas at the site.
The conversion factor used to convert weight to volume is as follows:
1 kg of the liquid medical oxygen = 0.77 m3 at the reference pressure of 1 atmosphere and temperature of 27°C.

- **Rate Contract**

The AIIMS will enter into a rate contract with the vendor for exclusive supply of Liquid Medical Oxygen for a minimum period of 5 years (From the date of first delivery). A formal agreement will be signed for this. Due penalty for faulty / interrupted delivery should be incorporated by mutual agreement.

1.1.5 Safety

The vendor should ensure that all international safety norms and standards applicable are implemented and certified by the CCOE.

Following are the mandatory provisions:

- Vessel sizing for at least 7 days' stock
- Vessel low liquid level alarm
- Vessel low pressure alarm
- Pipeline low pressure alarm.
- Twin regulator
- Twin safety valve
- Non return valve and 3 way diverter (bypass) valve
- Automatic changeover to 2 manifolds with control panel
- Alarm on indicating manifold in use in case the vessel is not in use.
- Alarm on low pressure back-up manifold cylinders
- **Statutory Requirements**

All statutory requirements of the Chief Controller of Explosives of India and SMPV rules need to be followed. Besides all regulations and guidelines put forward by the Govt. of India from time to time should be followed.

- **Maintenance and Operation**

- **The liquid O2 plant and the manifold should be run and maintained by the personnel provided by the vendor for initial 5 years which is extendable up to 10 years.**
- All routine preventive maintenance and break-down maintenance of the liquid oxygen plant should be done by the vendor. Experienced personnel should be readily available. Log of all works undertaken in the plant should be meticulously maintained by the vendor.
- Bulk cylinders for the manifold will be arranged by the hospital. The hospital will ensure that the cylinders are full and ready to use during emergencies.
- **Source of liquid oxygen supply**

The vendor should arrange to supply liquid oxygen and the facility should be close to the site (should be reachable within 24-36 hrs) - preferably with smaller back up facilities to meet emergencies.

- **Tankers for delivery of Liquid Oxygen**

The exclusive tankers for transport of liquid oxygen engaged / owned by the vendor should have all valid CCE documents. They should comply with the prevailing safety directives. The documents should be readily produced for verification when demanded. The vendor should engage only skilled drivers with adequate training decantation of liquid oxygen. The drivers should hold valid licenses. The vendor should have a large tanker fleet to ensure cross trunking whenever short supply occurs.

- **Experience**

The vendor should have vast experience in manufacturing, supplying, installing, operating and maintaining liquid medical oxygen plant in hospitals all over India.

1.2 Oxygen Manifold

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 10 numbers of cylinder pigtail connections to suit cylinder valves as per IS 3224 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.

Oxygen Manifold is to consist of 2 rows of 8x2 cylinders.

The manifold should be hydraulically tested to 3500 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 zinc plated.

1.3 Fully Automatic Oxygen Control Panel:

Automatic control panel should be constructed in accordance with the

requirement of international standards.
The Control Panel should be **UL (Underwriters Laboratories)** Listed,
It should comply with **NFPA-99 (National Fire Protection Agency -99), USA and CSA** approved or HTM-22 & CE Certified.

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 panel should automatically change over from the depleted "Primary" supply bank to the "Secondary" supply bank without fluctuation in the pressure. Changeover should be performed by electrically/pneumatically operated valves contained in the control cabinet. In the event of an electrical power failure the valves should automatically open to provide an uninterrupted gas flow. **It should also have a provision of manual changeover.**
The automatic gas manifold control should include:

- 2 supply pressure gauges
- 1 delivery pressure gauge
- 2 Line pressure regulators with bypass valve
- 1 line pressure relief valve
- 2 green in service LED indicators, one for each supply bank
- 2 amber / yellow ready for service LED indicators, one for each supply valve.
- 2 red replace depleted cylinders LED indicators, one for each supply bank
- Instruction for changing the cylinders clearly identified on the front of the control cabinet.
- All functional components should be enclosed in fiber glass reinforced polyester weather protected cabinet. Suitable for (0 deg. – 140 deg. F)
- Rated (Delivery) capacity should not be less than 1500 liters per min. at 60 psig.

The control panel should be as per codes and Standards as NFPA-99/CSA/NEC/or HTM-22, Underwriters laboratory (UL Listed), INC Section 407, ANSI-B-57-1.
To maintain a pressure drop from 14 kg-20 kg to 7 kg, the equipment must be capable of taking gas at 12-15 kg.
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.
The Control Panel shall include two pressure relief valves, one high pressure approx. 200psi and one low pressure approx. 75 psi.
The Control Panel will be made to provide Heavy Duty and have a **Flow Capacity of over 2000 LPM.**

1.4 Oxygen 10 Cylinders Emergency System.
It should provide 10 cylinders emergency system in a separate manifold at a specified distance from main manifold as per norm.

1.5 Oxygen Flow meter with Humidifier Bottle
Back Pressure Compensated flow meter should be of accurate gas flow measurement with following features:
A) Control within a range of 0-15 LPM.
B) It should meet strict precision and durability standard.
C) The flow meter body should be made of brass chrome plated materials.
D) The flow tube and shroud components should be made of clear, impact resistant polycarbonate.
E) Flow tube should have large and expanded 0-15 LPM range for improved readability at low flows.
F) Inlet filter of stainless steel wire mesh to prevent entry of foreign particles
G) The humidifier bottle is made of unbreakable & reusable polycarbonate material autoclavable at 134 degree centigrade.

1.6 High pressure tube for O2, N2O, Compressed Air, Nitrogen, CO2, & Vacuum
It should be imported color coded for individual services i.e. white for Oxygen, Blue for N2O and Yellow for Vacuum, Black for air. Antistatic rubber tube should be as per ISO standards.

2 Nitrous Oxide System
2.1 Manifold
Same as that of Oxygen Manifold but of 2 x 4 cylinder capacity
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 10 no of cylinder pigtail connections to suit cylinder valves as per IS 3224 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 shutoff valve. The manifold should be designed to facilitate easy cylinder changing and positioning. The cylinder should be placed with the help of cylinder brackets and fixing chains which should be zinc plated.
2.2 Fully Automatic Control Panel (for N2O)
Automatic control panel should be constructed in accordance with the requirements of international standards. The Control Panel should be **UL (Underwriters Laboratories) Listed,** should comply with **NFPA-99 (National Fire Protection Agency-99), US FDA or HTM-22** approved.
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 panel should automatically change over from the depleted “Primary” supply bank to the “Secondary" supply bank without fluctuation in the pressure. Changeover should be performed by electrically/pneumatically operated valves contained in the control cabinet. In the event of an electrical power failure the valves should automatically open to provide an uninterrupted gas flow. The manifold should not require any manual resetting or adjustments after the replacements of the depleted cylinders. There should be provision for manual changeover.

The automatic gas manifold control should include:

- 2 supply pressure gauges
- 1 delivery pressure gauge
- 2 Line pressure regulators with bypass valve
- 1 line pressure relief valve
- 2 green in service LED indicators, one for each supply bank
- 2 amber / yellow ready for service LED indicators, one for each supply valve.
- 2 red replace depleted cylinders LED indicators, one for each supply bank
- Instruction for changing the cylinders clearly identified on the front of the control cabinet.
- All functional components should be enclosed in fiber glass reinforced polyester weather protected cabinet. Suitable for (0 deg. – 140 deg. F)/ powder coated stainless steel cabinets
- Rated capacity (Deliver) should not be less than 1100 liters per min. at 60 psig.

The Control Panel shall include two pressure relief valves, one high pressure approx. 200psi and one low pressure approx.75 psi.
The control panel should also have heaters to prevent ice formation on the regulators at high flow rates.
The Control Panel should be made to provide Heavy Duty and have a **Flow Capacity of approx 900 LPM.**
The control panel should be as per codes and Standards as NFPA-99/CSA/NEC/Underwriters laboratory (UL Listed)/INC Section 407/ANSI-B-57-1.

3. Carbon Di-Oxide system

Medical CO2 Manifold 4 + 4 cylinders (Imported)
(Shall conform to HTM 02-01 Standard)
The Modular Manifold supply system shall provide carbon di-oxide piped distribution system. It shall confirm to HTM 02-01. The Modular Manifold system shall be such which increases flexibility and allows easy enlargement of the manifold capacity if a future increase in gas demand is required. The system should comprise basic components and shall be constructed of i.e. Primary Header, Secondary Header, 2-cylinder rack, 1-cylinder rack, Non–return valve, Blanking plug, and corner connector. The primary head should be mounted on a 2 cylinder rack which can be

connected to the left and right inlets of Automatic Control Panel. Each header should have a brass block with 2 non–return valves and brazed connection pipe. If the header is required to extend around either an internal or external corner, a corner connector shall be made available. 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 paint finish.

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.

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 manifold room. Manifold shall have specific tailpipe connections in accordance with HTM-2022/C11 and HTM 02-01.

The systems shall be “CE” marked under the Medical Devices Directive (Lloyd’s Register Quality assurance). Under this directive, the specified products are classified as Class IIb Medical Devices.

3.1 Fully Automatic Control panel CO2 System (Imported) (Shall conform to HTM 02-01)

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/C11. The Manifold Control System shall supply an **uninterrupted flow of 1000 L/min**. at a 400 kPa (4 bar) distribution system and a flow of to a (7 bar) 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 pre-determined level.

There should be a 2 stage duplex system 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 molded bronze filter

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.

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 molding 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 molded recess at the rear of the panel. There should be a failsafe 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 to that once changeover has occurred and the cylinders replaced a reset button must be operated to cancel the alarm condition.

To aid maintenance, the copper 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 standard range of manifold control systems are 'CE' marked under the Medical Devices Directive (Lloyd's Register Quality Assurance). Under this directive, the specified products are classified as Class IIb Medical Devices.

3.2 Emergency CO2 System 2 Cylinders with Test point: (Imported) (Shall comply to HTM 02-01) Emergency Reserve Manifold

The Emergency Reserve Manifold shall conform to NHS Health Technical Memorandum No. 02-01 (HTM 02-01), BS EN ISO 7396-1, BS EN ISO 15001 and BS EN ISO 10524-2. The manifold control system shall provide an uninterrupted supply of a specific medical gas from equally sized high pressure cylinder banks via a suitable arrangement of pressure regulators, providing a constant nominal downstream pipeline gauge pressure of 400 kPa, 700 kPa or 1100 kPa. The Emergency Reserve Manifold shall be supplied fully assembled and tested. A Gem 10 terminal unit test point shall be fitted, which shall be isolated from the main supply with a ball valve. The manifold shall be supplied with a non-return valve for connection to the distribution system, enabling a continuous supply of gas to the distribution system upon failure of the normal supply. To simplify installation the complete manifold fitted to a wall mounting plate attached to the wall with four screws.

Pressure Regulation
There shall be two separate stages of pressure regulation to enable high peak flow rates without a significant reduction in downstream pressure. Multistage regulators combined into a single unit are not acceptable. The inlet of the 1st stage regulator shall be protected from the particulate matter by a 25 µm sintered brass filter. Sintered aluminum bronzes shall not be used.

Regulators shall comply with BS EN ISO 10524-2 and shall be supplied with documented test reports upon request, confirming successful completion of the oxygen ignition tests stated therein. The manifold control system shall be capable of supplying **a flow of 1000 l/min** to a nominal 400 kPa distribution system, 1350 l/min to a nominal 700 kPa distribution system and a flow of 1800 l/min to a nominal 1100 kPa distribution system based on a 10% reduction in flowing pressure from a static pressure set point. All regulators shall be protected from over-pressurization by relief valves that are vented to atmosphere.

Materials
All polymers and elastomers in the gas flow that can be subjected to working pressure greater than 3000 kPa shall be halogen-free. The use of PTFE, PCTFE, Viton and other halogenated polymers in these applications is strictly prohibited. Non-return valves fitted to header manifolds shall have a metallic seat with ceramic ball. Soft seat non-return valves utilizing polymers or elastomers are not acceptable.

Emergency Reserve Manifold Operation
Either the left or right hand of the manifold bank shall be designated as “Duty”, with the other manifold bank being designated as “Standby”. When the bank pressure in the “Duty” bank falls to 68 bar (14 bar for CO2), a “Reserve Low” or “Reserve Fault” alarm condition shall be initiated by a contact pressure gauge, which shall be indicated on the relevant medical gas central alarm panel and/or primary supply automatic manifold panel. The “Standby” bank shall also be provided with a contact pressure gauge, such that any leakage of gas over an extended period which causes the pressure in the standby bank to fall below 68 bar (14 bar for CO2), will also initiate a “Reserve Low” or “Reserve Fault” alarm condition.

Non-return valves shall be fitted to each tailpipe connection point to protect the system in the event of a tailpipe fracture. Corner connectors shall be available to enable installation of manifold headers around corners of the manifold room. 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 a manifold room.

CE Marking
The standard range of Emergency Reserve Manifolds is ‘CE’ marked under the Medical Devices Directive (Lloyd’s Register Quality Assurance). Under this directive, the specified products are classified as Class IIb Medical

Devices.

Modular Header Manifolds
Modular header manifolds shall provide connection points for flexible cupronickel tailpipes. 'Secondary' headers shall connect directly to the manifold control system with extensions for additional cylinders being provided by the addition of further headers. The assembly should consist of 2 cylinder x 6 cylinder connection The Reserve / Standby Manifold should consists of a centrally mounted regulator Emergency supply Manifold. The cylinder capacity per bank should be increased by installing the required number of Modular Manifold headers and racks.

3 Vacuum System

3.1 Oil Sealed Rotary Vane Medical Vacuum System
Rotary Vane Medical Vacuum System shall be fully NFPA 99/HTM-22 compliant for use in medical vacuum and dual Medical / Surgical applications. The unit will consist of electric motor driven pumps, vacuum receiver, electrical control system and interconnection piping and wiring. The components shall be modularly assembled to accommodate most existing doorways and designed for serviceability.

3.11 Vacuum Pump Module
Two medical vacuum pumps each of total recirculating oil sealed rotary vane vacuum pump types. Pumps should be single stage and air cooled and capable of producing a maximum vacuum level of 29.1 mmHg. The pump assembly should include an integral anti suck back valve, exhaust oil separator delivering 99.9% oil and smoke particles free air, oil level sight glass, and an exhaust pressure gauge. Each pump is to be protected by a temperature switch, check valve, and pump isolation valve, source isolation valve and flexible connector. All motors should be hermetically sealed. **Each pump should be an exclusive unit meaning a standalone unit with independent power supply. The capacity should be capable to take care of total load of all the outlets.**

3.12 Vacuum Receiver
The vacuum receiver shall be constructed to ASME standards, made of steel and fabricated as per IS: 2825 for a vacuum pressure of 760mmHg. It should include a valves bypass manual drain valve, vacuum gauge and the National Board label.

3.13 System Controls
The control include individual self-protected combination motor controls with short circuit, single phase and thermal overload protection, individual control circuit transformers with fuse-less 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 door should have an HMI (Human Machine Interface) system 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 should be integrated into the packaged system. The circuitry should be so designed that the audible signal can be silenced and the visual indicator will remain until the fault has been cleared and the reset button actuated. Local alarm functions should be providing for reserve pump in use.

3.14 Accessories
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. Flexible connectors on inlet and exhaust of each pump, exhaust tee with union as well as copper tubing with shut-off-cock for gauge and vacuum switch etc.
3.15 Bacterial Filters (as per HTM 2022)
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.

3.2 Ward Vacuum Units

The Ward Vacuum Unit should be preferably digital and color coded display type or analogue type with regulator having large, easy to read gauge providing unmatched gauge accuracy ± 1% of full scale color coded range. The unit should have 3-Mode (High feature) and equipped with push to set technology which should automatically establish vacuum limit with each vacuum level setting. The ward vacuum unit should be equipped with max mode features which should facilitate unrestricted full time vacuum for emergency providing range of 0-760 mmHg. The unit should be equipped with Positive Pressure Relief Valve to protect patient and unit both in case if accidentally connected to pressurized gas (O2, Air etc.). The unit should be made of rugged, shatter-resistant ABS case. It should be corrosion & lubrication free having service fee back plate.

The Unit should have following:
- High Three Mode Continuous
- Modes I (On), O (Off), MAX
- Gauge: High Vacuum (O-760 mmHg)
- Regulated Vacuum 0-Full Vac
- Instantaneous Full Wall Vacuum Mode
- The Ward Vacuum Unit should conform to ISO 19979-3 and ASTM F 960.

3.2 Suction Jar should have the following
The Suction Jar (min 1200 ml volume) should be polycarbonate /

polyurethane and should be autoclave up to 160 degree C.
All seals and splatter tube should be in silicone for long life.
The filter trap in the jar should be designed to ensure maximum efficiency in preventing overflow and incorporates design features to ensure the breakdown of foam.

3.3 Theatre Vacuum unit

It should be a sturdy trolley with 5 castor base complete with angled high suction controller. The unit should be powered from the medical vacuum supply and with 5 meter of vacuum hose and matching probe suitable for vacuum outlet. It should have two secretion jars with below mentioned specifications.

3.3 Vacuum Regulator (Continuous/Intermittent) should have the following:

The Vacuum Unit should be preferably Digital and color coded display type or analogue type having large, easy to read gauge providing unmatched gauge accuracy ± 1% of full scale color coded range. The unit should have 3-Mode High feature and equipped with push to set technology which should automatically establish vacuum limit with each vacuum level setting. A unique dual spring regulator module to ensure precision in the critical care range (0-200 mmHg) while also providing unusually fast adjustment within 2 turns of the knob up to full wall vacuum instantly facilitating regulated and continuous suction for tracheal and pharyngeal airway management, surgical procedure and continuous nasogastric drainage. The unit should be made of rugged, shatter-resistant ABS case and corrosion & lubrication free having service free back plate

The Unit should have following:
-High Three Mode Continuous
Modes I (On), O (Off), MAX
Gauge: High Vacuum (O-760 mmHg)
Regulated Vacuum 0-Full Vac
Instantaneous Full Wall Vacuum Mode
Recommended for OR/ER use
The Vacuum Unit should conform to ISO 19979-3 and ASTM F 960.

3.3 Suction Jars should have the following:

The suction jar (1.5-4 liters volume) is to be similar in all respects to 3.21 jar specifications above.

4.0 Air Compressor

Should have the following **main features**
Air-cooled compressors for continuous duty application
Highest output of compressed air per HP i.e. low power consumption
Very low maintenance cost
Very low vibration resulting in low noise level

4.1 Reciprocating Oil-Less Continuous Compressed Air System with Desiccant Dryers preferably of Crompton Greaves / Kirloskar / Siemens / ABB make of Electric Motor.

4.11 Compressor Modules Quadruplex Medical Air Plant of 3200 lpm (Package unit)

- The medical air plant shall fully comply with the requirements of the UK DoH Health Technical Memorandum 02-01 (HTM 02-01) or NFPA-99C and UL Listed.
- The medical air plant shall be CE marked to the Medical Device Directive 93/43/EC as a class IIb medical device. A copy of the certificate authorizing the manufacturer to apply CE marking under the aforementioned directive. The medical air plant shall be manufactured under an ISO 13485:2003 quality management system. A copy of the certificate of registration shall be provided for review.
- Medical quality air shall be delivered at a nominal pressure of 400 kPa (4 bar) or 700 kPa (7 bar) gauge for supply of the hospital medical air system. The medical air plant shall deliver air, with a minimum total flow rate of 3200 l/min.
- Identical air compressor will run continuously to provide a flow rate of 3200 lpm and two identical air compressors will be standby. The principal of medical air plant will be the 2 air compressors always as working and 2 as standby. The compressors should be standalone ones with independent power supply.
- 4 x 1600 lpm rotary screw compressors, suitable for both continuous and frequent start/stop operation at a nominal outlet pressure of 1000 kPa gauge (10 bar) shall be provided. Compressors shall be directly driven by EFC IP55 energy saving CEMEP Class EFF1 high efficiency electric motor. Two compressors shall be designated as standby, such that the specified volumetric flow is achieved with two compressors not running.
- The duty compressors shall be automatically rotated by the plant control system to ensure even wear. Compressors shall be supplied with a block and fin style after cooler with a dedicated quiet running fan to maximize cooling and efficiency. Each compressor shall be fitted with a multistage air/oil separator, capable of limiting oil carry over to a maximum of 3 ppm to minimize contamination and maintenance. Each 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 -26^0C atmospheric dew point. A duplex desiccant dryer and filtration module shall be provided with three individual stages of filtration as follows:
- Stage 1: Coalescing filter upstream of the desiccant dryer for removing liquid water, oil and oil aerosol down to 0.1 mg/cum (0.1 ppm) and particles down to 1 micron.
- Stage 2: Particulate filter after the desiccant dryer for dust protection, removing particles down to 1 micron.

- Stage 3: Bacteria filter for removing particles down to 0.01 micron.
- The delivered air shall be independently verified by a third party pharmacist to comply with the European Pharmacopoeia monograph for medicinal air, with maximum concentrations of contaminants as listed below:

1. H2O 67ppm v/v (-46^{0}C atmospheric dew point)
2. Dry particulates 0.01 mg/m^3
3. Oil (droplet or mist) 0.1 mg/m^3
4. CO 5 ppm v/v
5. CO2 500 ppm v/v
6. SO2 1 ppm v/v
7. NO 2 ppm v/v
8. NO2 2 ppm v/v

- Total air receiver capacity shall be at least 50% of the plant capacity in 1 minute in terms of free air delivered at normal working pressure.
- Each air receiver shall be protected by a pressure relief valve, a fusible plug and include a pressure gauge with isolating valve.
- The plant control and power management system shall monitor the safe operation of the plant, providing signaling into the alarm system as per the requirements of HTM 02-01.8a. Pressure Reducing Station for 4 bar and 7 bar
- It should fully comply and meet with the requirements of the UK DOH Health Technical Memorandum 02-01 (HTM 02-01) or NFPA-99C and UL Listed.
- Simplex pressure reducing station shall comprise as in-line pressure regulator, with downstream pressure gauge. Pressure relief valve, capable of passing the flow of the regulator will be installed downstream of the regulator. Isolation Valves - fitted upstream of the regulator and downstream of the pressure relief. 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 and operate from fully-open to fully-closed with a quarter turn of the handle. Complete pressure reducing station with base plate mounted for ease of installation. Padlocks 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.

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, drain valve etc.
- Electrical include 15 HP, 3 ph., TEFC squirrel cage induction motors & Star Delta starter.
- 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.

- Compressor capacity should be as per international standards.

The compressors should consist of a crankcase, connecting rods, integral counterweights for smooth operation, and cylinders and heads designed for efficient heat dissipation. Piston rings should be provided to reduce wear and have a life span of 10,000 hours. 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 belt driven compressor module should include an inline filter with particle retention of 10 microns, inlet isolation valve, discharge isolation valve, and ASME safety pressure relief valve. The capacity should be capable to take care of total load of all the outlets.

4.2 Air Receiver

The corrosion resistant coated receiver is to be equipped with an ASME safety pressure relief valve, sight glass pressure gauge, automatic drain, three-valve by-pass and source isolation valve. Air receiver capacity provided should be at least 240 gallons.

4.3 Air Treatment Module

The air treatment module should include dual dryers, dual filtration system and a dew point transmitter with local audible and visual signals and dry contacts for remote monitoring. The component 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. Dryers should be heatless desiccant design selected 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. The dual filtration system should remove liquid and particulate matter, consisting of 0.5 micron coalescing filters with differential pressure indicators and automatic drain, airline pressure regulators with gauges, final pressure relief valve, and sampling valve. Each bank should consist of three stage treatment.

Digital dew point monitor is to be supplied with alarm contacts as per requirement of NFPA 99.

4.4 System Controls

The UL listed electrical control will be of a fuse-less design in a NEMA 12 enclosure. 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, single phase and thermal overload protection, individual control circuit transformers with fuse-less 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 door shall have an HMI (Human Machine Interface) system 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. **The system should be designed to function even if the programmable controller fails.**

4.5 Accessories

Accessories included for job site installation are inlet and discharge flexible connectors, vibration mounting pads, and source isolation valve.

5.0 Distribution piping

5.1 Piping specifications

Solid drawn, seamless, deoxidized, non-arsenical, half hard, tempered and degreased copper pipe conforming to BS EN 13348:2008 standards. 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. Copper pipe must have reputed third party inspection certificate (Eg. Loyd's, TUV, SGS). Fittings relevant standards – EN-1254/1 should be factory degreased, individually packed and certified for medical use by the manufacturer and kite marked up to 54 mm and suitable for a steam working Pressure of up to 17 bars and especially made for brazed socket type connections. The Isolation Valves will be made of chromium plated brass and Non Lubricated Ball type. All valves shall be pneumatically tested for twice the working pressure and factory degreased for medical gas service.

5.2 Installation & testing

Installation of piping shall be carried out with utmost cleanliness. Only pipes, fittings and valves that have been degreased and fittings brought in polythene sealed bags shall be used at site. Pipe fixing clamps shall be of nonferrous or non-deteriorating plastic suitable for the diameter of the pipe. All pipe joints should be made using flux less brazing method. All joints should be made of copper-to-copper and brazed by silver brazing filler material without flux (standard EN 1044; it is necessary to specify CP 104 type of brazing rod with 5% silver for copper to copper brazing and AG 203 type brazing rod with 43% silver for copper to brass brazing. 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. 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 24 hours. All the piping system should be tested in the presence of the site-engineer or his authorized representative.

5.3 Painting

All exposed pipes should be painted with two coats of synthetic enamel paint and color codification should be as per IS: 2379 of 1963.

The Pipe Sizes to be used are from among as under:

Pipe outside diameter (mm)	HTM2022 Vertical Runs (m)	HTM2022 Horizontal Runs (m)	HTM02 Horizontal and Vertical Runs (m)
12	1.2	1.0	1.5
15	1.8	1.2	1.5
22	2.4	1.8	2.0
28	2.4	1.8	2.0
35	3.0	2.4	2.5
42	3.0	2.4	2.5
54	3.0	2.7	2.5
76	3.6	3.0	3.0

6. Alarm System

6.1 Master Alarm

Each Master Alarm should be modular in design and be fitted with any number of master alarm modules. The master alarms should be capable to monitor from 10 to 30 points in a standard box or 10 to 50 points in a large box. A master alarm module should monitor up to 10 alarm points. 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.

The annunciator panel should be equipped with a “TEST” and a “SILENCE/RESET” button. The “TEST” button tests should display and audible alarm should be in working order. Alarm should comply with the requirement of FCC part 15 (47 CFR Part 15). This requires that no harmful electromagnetic energy is being emitted from the alarm system that may affect other facility equipment in the area of installation. In turn, the alarm system should not be affected by electromagnetic energy that may be emitted by other equipment in the area.

The box material should be of gauge steel of requisite thickness and equipped with mounting brackets that are adjustable up to a drywall thickness of 1-1/4” (32 mm). The Equipment should conform to an ISO 13485 facility.

Features

- Complies with NFPA 99 & FCC Part 15/HTM-201/UL tested
- High visibility LED readouts
- Circuitry allows for Normally Open or Normally Closed.
- Adjustable audible alarm repeat (from 1 to 99 minutes)
- Can be interfaced with Lon Works or BMS interface
- Knockout for conduit installation

- UL & CSA listed

6.2 Medical Gas Alarm (Main & Area)

The medical gas central alarms should be capable of monitoring a maximum of 6 medical gas services by means of pressure sensors which detect deviations from the normal operating limits of either pressure or medical vacuum. The area alarm should have a digital display of pressures. The medical gas area alarm should fully satisfy the international standard. Each gas service should be displayed by coloured LED's to show 'Normal' (green), 'Low' and 'High Pressure' (red) conditions. Medical vacuum systems should be displayed in the 'Normal' (green) and 'Low Vacuum' (red) conditions only. Failure indicators should be displayed by flashing lights and normal indications should be steady.

An audible warning should sound simultaneously with any failure indication and a mute facility should be provided. Following a mute selection the audible should resound after approximately 15 minutes, or should operate simultaneously should a further alarm condition occur. A maintenance 'Mute' switch should be provided internally to the panel for use during maintenance which results in prolonged pipeline or plant shutdown. This facility should automatically reset when the gas service returns to normal.

The alarm panel should have a 'test' facility to prove the integrity of the internal circuits, LED's and audible warning. The alarm panel should incorporate a volt free normally closed relay to allow for interconnection to either a medical gas central alarm system or an event recording circuit of a building management system.

The alarm should be microprocessor based with individual microprocessor on each module and should provide interface to Gas Delivery Management System.

A centralised alarm in the manifold room is also essential

7.0 Pendants and bed head panel

7.1 Horizontal Bed Head Panel for wards

It should have following features

- Efficient, Safe & Robust design in extruded aluminum section.
- Smooth curved surfaces, and choice of base color and fascia plates.
- Unit should have integrated rail system to mount accessories
- The headwall system should be constructed of aluminum extrusions joined together to form a carcass to suit the particular application. Unit should be factory assembled for electrical and mechanical components.
- Segregation of services i.e. Low voltage supplies, High Voltage supply and Medical gases should be maintained throughout

- Front fascia plate should be removable individually to access for respective service.
- Bed space management system with optional equipment rail.
- With all Equipment Rail mount Accessories.
- All down drops should be installed at one end preferably & Vertical drop installed at one end should be covered with Aluminum boxing with matching color.
- Entire pipe line should run in continuous horizontal panels with no break for each unit & length as per area where it has to be installed.

-Facility per unit as under:

• Oxygen – 2	• Arm lamp with adopter – 1
• Vacuum – 1	• Holder for vacuum collection jar – 1
• Medical air – 1	• Nurse call switch – 1
• Infusion pump mount pole with adopter for mounting at least two infusion pumps	• Electrical outlets: 6 Combined 15 / 5 amp
• Two spare spaces	• Monitor Bracket and indigenous manometer.

7.2 Vertical Bed Head Panel

Each vertical bed head panel should have:

- A vertical panel from ceiling to 4 feet above floor level
- No wooden or HPL should be used in the panel
- Should have segregation / partition for medical gases and electrical outlets
- Should have two stainless steel tubes to mount shelf and other equipments
- Should have provision for gas outlets 5 no (2 Oxygen, one air, two suction)
- Should have 8 no electrical switch sockets. Each socket should have combined 15/5 mA plugs
- 1 rigid aluminum 1 face – 2 compartments.
- 1 shelf type 700-800 mm
- 1 rail of 30-40 mm for biomedical equipment

8. Gas Outlets

8.1 Terminal Units (Gas Outlets) with probes/Adaptors for O2, N2O, C Air (4 & 7 bar), Nitrogen (10 bar), Vacuum & CO2 (CO2 can be optional depending on the requirment)

The outlets should be UL Listed, NFPA complaint, cleaned for medical gas

service and be pressure tested. Each outlet should have less than 3 psi (21 KPa) pressure drop through the outlet @ 120 l/min and 50 psig (345 KPa) inlet pressure. For outlets providing positive pressure gas, the outlet should be equipped with a primary and secondary check valve which should be rated for 200 psi (1,379 KPa) allowing the primary check valve to be removed for services without isolating the entire zone.

The wall outlets should have a gas specific back body with steel mounting plate, which allows outlets to be ganged together with a center line spacing of 5" (127 mm). Each back body should be equipped with a 6-1/2" (165 mm) length type "K" copper pipe stub which is brazed to the outlet body. The outside diameter of the copper pipe stub should be 1/2" (12.7 mm). The inlet pipe can be swiveled 360 degrees for ease of installation.

Outlet bodies should be gas specific by means of a gas assembly only with the specific matching gas back body, preventing interchangeability of gas services.

The latch-valve assembly should identify the specific medical gas service provided by the outlet by means of color coding and wording.

Aesthetics of outlet should be specified.
The wall outlet should accommodate various finished wall thickness from 3/8" (10 mm) to 1-1/4" (32 mm).

9. AGSS (Anesthetic Gas Scavenging System) Plant

Imported Duplex Anesthetic Gas Scavenging System (AGSS) of 1300 l/min should fully meet and comply with BS 5684, BS 6832 and HTM-2022/02-01, EN737, C11, CE marked/DIN/CSA/ NFPA 99C/ UL listed. It should be complying with 93/42/EEC Medical Devices: General and should have CE no. Duplex AGSS System with twin stand alone AGSS pumps of 3 phase 1300 l/min capacity each with built in flow indication and pressure regulation valve. It should be mounted on single frame with control panel and separate warning label. One pump working and one stand by. One pump will be standby with the other in operation. The package should consist of two rotary vane vacuum pumps, a control panel, and mounted on a common base frame.
AGSS pump: AGSS pump shall operate completely dry permanently lubricated and sealed. Each pump should be completely air cooled and have absolutely no water requirements.
Control System: 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 anesthetic agents 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 a systems, it is essential that terminal units, remote controls and pump units. Eight AGSS Remote Control indicators must be provided with the system.

SPECIFICATIONS

Supply of Oxygen Bulk Cylinder ISI marked to IS 7285(Part-2): 2004 duly approved from CCOE Nagpur. The cylinder shall be fitted with valve & valve guard having following broad specifications:

I) Dimensions: 232 mm O.D x 1365 mm length.

II) Capacity Minimum: 6.7 Cubic meter Gas capacity;

: 46.7 litres Water capacity

III) Minimum Wall thickness = 5.2 mm.

IV) Working pressure at 15°C = 150 kgf/cm².

V) Test pressure = 250 kgf/cm².

VI) Nominal Tare Weight = 51.00 kg with Neckning.

VII) Neck Threading: IS3224 1979.

SPECIFICATIONS

Supply of N2O Bulk Cylinder ISI marked to IS 7285(Part-2):2004 duly approved from CCOE Nagpur. The cylinder shall be fitted with valve & valve guard having following broad specifications:

I) Dimensions: 232 mm O.D x 1365 mm length.

II) Capacity Minimum: 1800 litres N2O Gas capacity.

: 46.7 litres Water capacity

III) Minimum Wall thickness = 5.2 mm.

IV) Working pressure at 15°C = 150 kgf/cm².

V) Test pressure = 250 kgf/cm².

VI) Nominal Tare Weight = 51.00 kg with Neckning.

VII) Neck Threading: IS3224 1979.

SPECIFICATIONS

Supply of CO2 Bulk Cylinder ISI marked to IS 7285(Part-2):2004 duly approved from CCOE Nagpur. The cylinder shall be fitted with valve & valve guard having following broad specifications:

I) Dimensions: 232 mm O.D x 1365 mm length.
: 46.7 litres Water Capacity

II) Minimum Wall thickness = 5.2 mm.

III) Working pressure at 15ºC = 150 kgf/cm².

IV) Test pressure = 250 kgf/cm².

V) Nominal Tare Weight = 51.00 kg with Neckning.

VI) Neck Threading: IS3224 1979.

SPECIFICATIONS - B Type
Supply of Oxygen Bulk Cylinder ISI marked to IS 7285(Part-2):2004 duly approved from CCOE Nagpur. The cylinder shall be fitted with valve & valve guard having following broad specifications:

I) Dimensions: 140 mm O.D x 855 mm length.

II) Capacity Minimum: 1.53Cu.m. Gas capacity.

: 10.2 litres Water capacity

III) Minimum Wall thickness = 4.2 mm.

IV) Working pressure at 15°C = 150 kgf/cm².

V) Test pressure = 250 kgf/cm².

VI) Nominal Tare Weight = 14.9 kg with Neckning.

VII) Neck Threading: IS3224 1979.

SPECIFICATIONS - A Type
Supply of Oxygen Bulk Cylinder ISI marked to IS 7285(Part-2):2004 duly approved from CCOE Nagpur. The cylinder shall be fitted with valve & valve guard having following broad specifications:

I) Dimensions: 140 mm O.D x 430 mm length.

II) Capacity Minimum: 0.68Cu.m. Gas capacity.

: 4.5 litres Water capacity

III) Minimum Wall thickness = 4.2 mm.

IV) Working pressure at 15°C = 150 kgf/cm².

V) Test pressure = 250 kgf/cm².

VI) Nominal Tare Weight = 8.2 kg with Neckning.

VII) Neck Threading: IS3224 1979.