

## **BIDDING DOCUMENT**

**TENDER NOTICE No: 10/2020- 2021/Bio-Medical Equipment/IGIMS/Store**



**Supply, Installation & Commissioning of Bio-Medical Equipment's / Instruments**

**TENDER NOTICE No: 10/2020- 2021/Bio-Medical Equipment/IGIMS/Store**

Issued to:

Cost of Document: **Rs.2500/-**

Paid By:           Cash:           Receipt No.:

Demand Draft:    No.:

Issuing Bank:

**(Authorized Signatory)**



**INDIRA GANDHI INSTITUTE OF MEDICAL SCIENCES,  
SHEIKHPURA, PATNA - 800014.  
INDEX**

<b>Sr. No.</b>	<b>Description</b>	<b>Page No.</b>
01.	<b>ELIGIBILITY CRITERIA</b>	<b>4-5</b>
02.	<b>INSTRUCTION TO BIDDER</b>	<b>6-12</b>
03.	<b>CONDITION OF THE CONTRACT</b>	<b>13-17</b>
04.	<b>SCHEDULE OF THE REQUIREMENT</b>	<b>18</b>
05.	<b>CHECK LIST</b>	<b>22-23</b>
06.	<b>SPECIFICATION AND ALLIED TECHNICAL DETAILS</b>	<b>33-45</b>

**IMPORTANT DATES**

1. **Name & address of advertiser** : Director, IGIMS, Sheikhpura, Patna -14  
P.O.-B.V. College, Patna 800014
2. **Date of issue of E-Tender notice** : **23/ 09/ 2020**
3. **Period for download of tender document only on** : From **01/ 10 / 2020 to 07/ 11/ 2020** up to 12.00 hours through above website  
[www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in).
4. **Last Date of pre bid Clarifications:** : In view of increased need to minimize possibility of community spread of ongoing COVID – 19 epidemics, physically pre-bid meeting will not be held. In case the bidders requires any clarification regarding the tender documents and proposed technical specifications, they are requested to contact our office (**e-mail: [storeofficer@igims.org](mailto:storeofficer@igims.org)**) on or before **07/ 10/ 2020**.
5. **Last date & Time for submission / uploading of complete tender at** : **07/ 11/ 2020** up to 17.00 Hours  
[www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in).
6. **Last date, time and place for submission of hard copy of the Technical bid along with EMD & Tender Document Fee at Director's office, I.G.I.M.S., Patna by Speed / Registered post / Courier only** : **09/ 11 / 2020** up to 16.00 Hours, at Director IGIMS,- Patna-800014, P/O-. B. V. College Patna
7. **Date, Time and Place of opening of Techno Commercial bid only on** : On [www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in)  
**a. Group A on 10 / 11 / 2020 at 15.00 hours**  
[www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in).
8. **Date, Time and Place of opening of price bid** : Date & Time will be communicated later on subsequent to acceptance of techno- commercial bid at  
[www.eproc.bihar.gov.in](http://www.eproc.bihar.gov.in)

**INDIRA GANDHI INSTITUTE OF MEDICAL SCIENCES,**  
**SHEIKHPURA, PATNA -800014 (Bihar, India)**

Sr. No. of Tender : \_\_\_\_\_

FILE NO. : Tender No.: \_\_\_\_\_

Tender form issued in favour of: \_\_\_\_\_

Dear Sir,

1. I/We hereby submit our tender for the \_\_\_\_\_
2. I/We are enclosing herewith the Demand Draft No..... dated..... for  
**Rs. /-** drawn in favour of **Director I.G.I.M.S. - Patna (payable at Patna)** towards **EMD / Bid Security.**  
  
**(EMD AND COST OF BIDDING DOCUMENTS MUST BE SUBMITTED IN SEPRATE ENVELOP.TENDERS NOT ACCOMPANIED WITH EMD / BIDSECURITY ALONGWITH THE TECHNO-COMMERCIAL BID SHALL BE SUMMARILY REJECTED).**
3. I/We have gone through all terms and conditions of the tender documents before submitting the same.
4. I/We hereby agree to all the terms and conditions, stipulated by the I.G.I.M.S. - Patna including delivery, warranty, penalty etc. Quotations for each group are being submitted under separate covers, and sheets and shall be considered on their face value.
5. I/We have noted that overwritten entries shall be deleted unless duly cut & rewritten and initialled.
6. Tenders are duly signed and stamped.(No thumb impression should be affixed)
7. 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 EMD/Bid deposited may be forfeited and our/my name may be removed from the list of suppliers.
8. **I/we have quoted the price in Indian Rupee only.**

Yours faithfully,

(Signature of Bidder with full name and address)

## **ELIGIBILITY CRITERIA**

### **1. Eligibility Criteria:**

- a. Annual financial turnover during the last three years ending 31<sup>st</sup> March 2019 should be not less than Rs 10 Crores in each year.
- b. The experience of having successfully completed 3 similar works of not less than Rs 1Crore during last five years.
- c. Minimum solvency certificate from banker for 50% of estimated cost.
- d. Profit / Loss: The Company should have positive, Net Worth and should not have incurred any loss in three years ending 31<sup>st</sup> March, 2019 duly certified by the Chartered Account.
- e. No penalty should have been levied on the bidding firm by government agencies such as Central Vigilance Commission (CVC) / Comptroller and Auditor General of India (CAG) / Competition Commission of India (CCI), etc and bidder should never have been blacklisted and or debarred by any central / state government organization.
- f. Firms must submit along with the offer the necessary authority letter from their principals / manufacturer for all the items mentioned in the specifications list.

### **2. PERSONNEL, EQUIPMENT AND FINANCIAL CAPABILITIES**

- a. **Personal Capabilities:** The firm should have suitably qualified and experienced personnel for the successful completion of works. List of employees and bio-data of key officials shall be submitted stating clearly how these would be involved in this work. (Fill enclosed ANNEXURE - I).
- b. **Equipments Capabilities:** The Applicant should submit the list of equipments for successful completion of project. (Fill enclosed ANNEXURE - I I).
- c. **Financial Capabilities:** The Audited Balance Sheets for the last three financial years 2016-2017, 2017-2018 & 2018-2019) should be submitted and must demonstrate the soundness of the Applicant's financial position showing positive net worth and net profit, (see ANNEXURE -III). Where necessary, the Director, IGIMS, Patna will make inquiries with the Applicant's bankers (Applicant to fill enclosed ANNEXURE -III)

### **3. EXPERIENCE OF EXECUTING OF PROJECTS OF SIMILAR NATURE & COMPLEXITY**

The applicant shall submit information about their past experience in executing projects of similar nature and complexity with information about magnitude of the Projects, Type of Projects, Completion Certificate from Client, Time Overrun if any, Cost overrun if any, (Fill enclosed ANNEXURE –IV)

### **4. OTHER INFORMATION TO BE SUBMITTED ALONG WITH TENDER**

- a. **Registration/License:** The firm should have Works Contract Tax/ GST Registration with the appropriate Authorities. In case the firm is not registered at the time of submission of bid, a declaration should be submitted by the firm that they will get themselves registered with the concerned authorities in case they are awarded the work.
  - b. The firm should submit an affidavit duly notarized that they have not abandoned or were blacklisted or penalized for any work of Union Government/State Governments/PSU's etc. during last 5 years.
  - c. The applicant should provide information regarding Litigation/Arbitration cases for the last five years. (As per ANNEXURE –V)
  - d. The applicant shall submit the supporting documents regarding the information given in the ANNEXURE -I to ANNEXURE –V.
  - e. Even though the Applicants meet the above criteria, they are subject to be disqualified, if they have:
    - Made misleading or false representation in the form, statement and attachments submitted;
    - Record of poor performance such as abandoning the work, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures, etc while working with any organizations,
- Or
- Found to have been black listed in any of the works.
  - Found to have been penalized by any Govt. agency or Competition Commission of India (CCI) etc. for indulging in illegal bid rigging and cartelization etc.

5. The applicants are advised to visit the site to get first hand information as regards its approach, accessibility, working conditions, site conditions, availability of labor and material etc. and other matters affecting cost and work. All costs incurred in connection with submission of the tender shall be borne by the applicant irrespective of the outcome.
6. If any information furnished by the applicant is found incorrect at a later state, applicant shall be liable to be debarred from tendering. The Director, IGIMS, Patna reserves the right to verify the particulars furnished by the applicant independently.
- 7. Even though the agency meets the criteria, the Institute reserves the right to accept or reject any applicant/disqualify any agency without assigning any reason whatsoever.**
8. The Institute reserves the right to ask for a free demonstration of the quoted equipment at a pre-determined place acceptable to the purchaser of technical acceptability as per the tender specification, before the opening of the price tender.

## INSTRUCTION TO BIDDER

### GENERAL INSTRUCTIONS TO BIDDERS

1. **Tendering System**

The tenders/Bids are to be submitted in two Parts i.e. **Part - I & Part II.**

**PART - I titled as TECHNICAL BID** shall contain the complete technical specifications and details on the competency of the bidder and also the commercial bid package with terms and conditions of supply, warranty, after sales service etc. (Except Price Bid Form). Apart from the documents and signed copy of the purchased tender document, the necessary enclosures should be submitted in this technical bid. In short, the technical bid should contain all the necessary documents to prove the technical competency and capability of the bidders for supplying and installing a trouble free equipment meeting the quality standards and technical specification and the ability of the bidders for providing efficient after sales service to the satisfaction of the Tender Inviting Authority and the user institution.

**PART - II titled as PRICE BID**

2. The tender offers, duly filled, shall be submitted in sealed covers for **technical**. Such covers shall be super scribed as **“Tender No..... (here mention the tender no as specified) TECHNICAL BID for supply of ..... (here mention the name of the equipment**
3. Quantity of items may increase or decrease. Director, I.G.I.M.S. - Patna reserves the rights to purchase different sub items/ components of items from different bidders.

**This rate Contract will be valid for Two year from date of 1<sup>st</sup> satisfactory installation and acceptance of the equipment. Repeat Supply Order will be placed as per requirement of the Institute of all the quoted and approved items. The rate contract may be further extended for period of one year as decided by Director, IGIMS-Patna.**

4. The “Bidding Document” along with terms and conditions, technical specification can be obtained from the office of the Store Officer, IGIMS, Patna on payment of **Rs.2500/- (Rs. Twenty five hundred only)** Non –refundable for each Group by demand draft favouring Director, IGIMS, Patna payable at Patna.
5. The “Bidding Document” can also be downloaded from institute website [www.igims.org](http://www.igims.org). In case, downloaded bidding document is used, Bidder(s) have to submit the cost of the Tender Document along with the completed documents in the form of demand draft in favour of Director, IGIMS, Patna, payable at Patna towards cost of the “ Tender documents” Bidder is required to attach separate DD for the same in a separate envelop super scribed with “ cost of bidding document” if the cost of tender document is not submitted by the bidder, his offer shall be outright rejected.
6. **Last date for submission of bidding document is 09/11/2020 up to 4.00PM by speed/Regd. post/ Courier only and technical bid will be opened on 10/11/2020 at 3.00 PM in Conference hall IGIMS, Patna**

7. **Earnest Money Deposit (EMD):**

**Earnest Money 2% of the cost of Equipment required** to be submitted along with tender by Demand Draft from any scheduled Indian Bank only along with the tender favouring Director, I.G.I.M.S. – Patna (payable at Patna). No interest is payable on EMD/ Bid security.

- a. Bidder may quote more than one/several models. In such a situation EMD will be payable on the basis of highest priced model.
- b. EMD of the unsuccessful bidders will be returned to them at the earliest after expiry of final bid validity and latest on or before the 30<sup>th</sup> day after the award of the contract without any interest.
- c. EMD must be submitted in separate sealed envelope and endorsement of the same with DD number & date Bank Guarantee No. and its validity period be made with technical bids without

amount stating that the same has been complied with price bid. If same is later found not enclosed tender will be cancelled for the party.

- d. Non- submission of sufficient EMD along with the Technical Bid shall be one of the primary reasons for rejection of the offer in the first round.
- e. Cheque, Cash payment, Money Order, Fixed deposit etc will not be accepted as EMD.
- f. Public Sector Units within the State or State micro, small and medium enterprises registered with Govt. are exempted from remittance of EMD subject to submission of valid documents.
- g. The EMD shall be in one of the following forms:
  - i. A demand draft in favour of Director, I.G.I.M.S. – Patna (payable at Patna);  
OR
  - ii. A Bank Guarantee issued by a nationalized/ scheduled bank located in India, in the form prescribed in the tender document as Annexure- IV (valid up to one year from the date of technical bids opening) Bank Guarantee in any other format will not be acceptable and render the bid non-responsive.
  - iii. The successful Bidder's EMD will be discharged upon the Bidders signing the contract and furnishing the performance security. The EMD deposited in the form of DD of the successful Bidder can be adjusted towards the security deposit payable.

8. Bidder(s) should enclosed photocopy of Income tax & sales tax clearance certificate.

9. The Bidder's shall have to submit the following documents (Certified by Notary) in technical bid:

- a. User List (List of Govt. / Semi Govt., Reputed Pvt. Hospital) where quoted model of the items has been supplied and installed.
- b. Supply order (minimum 3 nos. or more issued by govt./semi govt./reputed pvt. institution/organisation for quoted items ( same model)
- c. Performance certificate of the same supplied machine (of quoted make and Model) issued by **Head of the deptt. or Institution** after a minimum period of six months of installation.
- d. Prerequisite (if any) for installation of the Machine if any to be provided by the Institute.
- e. If the manufacturing company and/or its Indian agent (for Foreign manufactured) have authorized some agency for participation in this tender for a limited period than in that case they (Manufacturer / Indian agent) shall have to submit an undertaking duly notarized by Public notary that if their tender is selected they shall be solely responsible for compliance of all the terms and conditions mentioned in the bilateral agreement for purchase and subsequent supply order even if their authorized agent is changed. Any tender offer without such certificate duly certified by public notary shall be rejected in technical scrutiny itself.
- f. **Bidder must submit a compliance checklist along with the technical bid itself.**
- g. (Any tender offer without submission of above mentioned document (i.e. a to e) shall be rejected during technical scrutiny.)
- h. If any new System/ Latest model machine is a launched in the market and seller has not installed such quoted models they should submit an undertaking that he has not installed such models previously (Notarized by Public Notary).They may submit supply order / performance certificate of previous model, which was recently installed by them.

#### **10. Installation & site plan:-**

Requirement regarding site/location etc. for installation of equipment, if any, should be mentioned in the tender. Time required for installation of system after delivery must be mentioned. In case of delay in installation institute will have right to charge liquidated damage. Specify the following points for installation of the System: -

- a. Total power consumption along with break up of main System and Accessories.
- b. Whether the System needs uninterrupted power supply where ever applicable.
- c. Maximum tolerated transfer time in case of interruption of power supply.
- d. Whether the System needs any humidity control device.

- e. Whether the System needs any separate power line/isolation Transformer.
- f. Does the System need the electrical shielding?
- g. Does it require special civil works for installation?
- h. Whether Air conditioner is an essential requirement for the system.
- i. Does it require any special civil works for Installation?

**11. After Sales Service Conditions:**

- a. The Institute is in the pursuit of ensuring excellent after sales service for every user in respect of the equipment's supplied under this contract. The after sales services terms and conditions will be strictly enforced and those Bidders who are willing to support the Institute in its endeavour to provide trouble free operation/performance of the equipment's for the prescribed period need only participate in the tender.
- b. The after sales service shall be performed during the warranty period and also during the Comprehensive Maintenance Period (CMC)/ Annual Maintenance Contract, if awarded. The detailed terms and conditions for after sales service are mentioned hereunder.

**c. Guarantee/Warranty Terms:**

- i. The successful Bidder has to warrant that the Goods supplied under this Contract are new, unused, of the most recent or current models and incorporate all recent improvements in design and materials unless provided otherwise in the Contract.
- ii. The successful Bidder further have to warrant that the Goods supplied under this Contract shall have no defect arising from design, materials or workmanship (except when the design and/or material is required by the Tender Inviting Authority's specifications) or from any act or omission of the successful Bidder, that may develop under normal use of the supplied goods.
- iii. All the equipment's including the accessories supplied as per the technical specification as mentioned in the bidding document should carry comprehensive warranty (including all spares, accessories and consumables) for a period mentioned in this document in the first instance. During this period, the successful Bidder shall replace all defective parts / accessories / consumables and attend to all repairs/break downs and undertake stipulated number of preventive maintenance visits to every user installation site. The cost of spare parts for all replacements has to be borne by the successful Bidder during the period of comprehensive warranty. The items which are not covered under warranty should be clearly mentioned along with rate of the items . If any spares / accessories / consumables etc. are not replaced by the bidder during warranty period, bidder should mention it clearly with name of the items with frequency of replacement and its rate of the item.
- iv. On expiration of the comprehensive warranty period, the successful Bidder shall be willing to provide after sales support for an additional period prescribed in this document.
- v. The prospective Bidder, who are not manufacturers, shall submit an undertaking from the Original Equipment Manufacturers (OEM) that they are willing to provide spare parts for the period of warranty as mentioned and also during the additional CMC/AMC period, if awarded. The OEM shall also assure continuity of service to their product, in the event of change in dealership or the Bidders – their existing dealers - couldn't provide service during the warranty / CAMC period. The undertaking from OEM is an essential document forming part of the Technical Bid, without which the tenders will be rejected summarily in the first round itself.
- vi. After sales service centre in Patna (Bihar) preferably or at least in East India should be available as part of the pre-qualification and the Bidder shall provide proof of their capability to undertake such maintenance/repair within the stipulated time.
- vii. The successful Bidder shall provide preventive maintenance as per the frequency mentioned in this document during the warranty period. The Bidder shall attend any number of break down/repair calls as and when informed by the institute authority.
- viii. Upon receipt of such notice for repair/breakdown from the institute, the successful Bidder shall, within the period as specified in this document, and with all reasonable speed, repair or replace the defective goods or parts thereof, without cost to the Tender Inviting Authority.
- ix. If the successful Bidder, having been notified, fails to rectify the defect(s) within the period specified mentioned in this document, the Tender Inviting Authority may proceed to take such



remedial action as may be deemed necessary, at the successful Bidder's risk and cost and without prejudice to any other rights which the Tender Inviting Authority may have against the successful Bidder under the contract.

- x. Failure to attend the repairs in time or failure to attend the stipulated preventive maintenance visit or failure to replace the defective equipment's or to provide stand by equipment if the fault/down time exceeds the stipulated period or to ensure the stipulated up-time in an year shall lead to forfeiture of the performance security and/or may lead to blacklisting/debarring of the defaulting Bidder.
- xi. The equipment which requires quality assurance test shall be done at free of cost immediately after installation, during the comprehensive warranty period, during the CMC/AMC period, by the demand of User and also when major spares are replaced.
- xii. Any mandatory approval required for installation shall be obtained by the successful Bidder in liaison with the respective authorities.
- xiii. The Bidder shall submit the parameters which require calibration and the frequency of calibration required.
- xiv. The Bidder shall undertake on-site calibration of the equipment every year as part of the after sales service during the period of comprehensive warranty, CMC/AMC or on demand from the user.
- xv. The Bidders shall also have to submit whether periodic replacements of consumable items are required for proper functioning of their quoted machine/Equipment? If yes they should submit the list of such consumables along with price list and frequency of replacement per year, if the same is not replaced free of cost during warranty / guarantee period.
- xvi. An undertaking of the principal regarding continuity of after sales and services (CAMC) @ the agreement rate even in case of changes of Indian agent during the life span of the equipment, must be enclosed in the technical bid. Further, it will be the responsibility of the manufacturer Indian agent to get counter signature on the agreement to be executed with them by the principal.
- xvii;- The offered warranty includes:
  - Visits to the user institutions at frequencies prescribed as part of preventive maintenance.
  - Testing & calibration as per technical/service/operation manual of the manufacturer or as per the period specified or as per the demand of the user.
  - Quality Assurance tests (if applicable).
  - The cost of labour for all repairs/ and all spares required for replacement during repairs all kinds of accessories, Probes, all types of sensors and transducers, Electrodes, Detectors, battery, battery for UPS, other vaccumatic parts etc wherever applicable and also the accessories and other devices supplied along with the equipments like stabilizer, UPS, AC, Computer, Compressor, Monitor, etc, which forms part of the equipment system, without which it cannot perform satisfactorily.
  - The exclusion of warranty of any vital equipment parts will be compared with offers of other Bidders during evaluation of the bids and this may be taken into consideration in deciding the successful Bidder on the basis of expert advice.
  - The Bidder shall provide up-time warranty of complete equipment as mentioned in this document, the uptime being calculated on 24 (hrs) X 7 (days) basis failing Warranty period will be extended for every additional day of down time equal to one week.
  - All software updates, if any required, should be provided free of cost during Warranty period.

**d. Comprehensive Annual Maintenance Contract:**

- The decision to enter into CMC or AMC will be determined on the basis of cost and complexity of the equipment by the Tender Inviting Authority, at its discretion, prior to the expiration of warranty period.
- The Comprehensive Maintenance Contract (CMC) is otherwise an extended warranty. All the terms and conditions agreed by the successful Bidder for executing the comprehensive warranty of the equipment shall be extended during the period of CMC, only difference being the payment of CMC charges is absent during the period of comprehensive warranty.
- The cost of CMC, accessories spares, and consumables as in case may be quoted along with taxes applicable, if any. The taxes to be paid extra, to be specifically indicated. In the absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later.
- Failure/refusal on the part of the successful tender supplying/installing the equipment's to enter into CMC with the Tender Inviting Authority, at the end of the Comprehensive Warranty Period, if the Institute, as the case may be, desires so, shall lead to forfeiture of performance security and may also result in the blacklisting/debarring of the Bidder.
- The successful Bidder shall also indicate the rates for the CMC in price bid form and such rates are binding on the successful tenders after the expiration of the warranty period. The yearly rates for CMC shall remain the one and the same as quoted in the price bid form for the extended years.
- Cost of CMC (excluding taxes, if any) will be considered for Ranking/Evaluation purpose.
- The payment of the agreed CMC charges will be made as per frequency for payment after satisfactory completion of said period, on receipt of service report/ break down report from the user.
- The Bidder shall also have to submit whether periodic replacement of consumable items are required for proper functioning of their quoted machine/Equipment? If yes they should submit the list of such consumables along with price list and frequency of replacement per year if the same is not included in quoted Comprehensive Annual Maintenance Contract charges per year.

**12. Time Limits prescribed**

<b>Sl. No</b>	<b>Activity</b>	<b>Time Limit</b>
a.	Installation & Delivery period	12 weeks from date of issuance of Supply Order
b.	Comprehensive warranty period	3 years from the date of successful installation.
c.	CMC period	7 years
d.	Frequency of visits to all User Institution concerned during Warranty/CMC	One visit every three months (4 visits in a year) for periodic/preventive maintenance and any time for attending repairs/break down calls.
e.	Frequency of payment of CMC charges	Every six months after completion of the Period.
f.	Submission of Performance Security and entering into contract	10 days from the date of issuance of Letter of Intent
g.	Maximum time to attend any Repair call	Within 24 hours.
h.	Uptime in a year during warranty as well as during CAMC period.	95% of 365 days.

13. Firm have to provide a minimum **UPTIME GUARANTEE** of 95% (95% of 365 Days) per year during the warranty period as well as during the Comprehensive Annual Maintenance Contract.
14. **While calculating the total unit price of the item / system to be procured, expenditure to be incurred in maintenance of the quoted item / system including all spare parts for a total period of seven years after expiry of the warranty period of three/ five years shall also be taken into consideration. Accordingly, it is mandatory for the bidders to submit the rate for Comprehensive Annual Maintenance Contract (with spares) for a minimum period of seven years after the expiry of warranty period of three years.**

15. Supplier will submit undertaking for ensuring uninterrupted supply of spares during the total life span of the equipment's.
16. Indian agency commission and Installation charge if any will be paid in Indian rupees after successful installation and demonstration of the equipment's.
17. Principal's Invoice of the quoted items must be submitted with the quotations.
18. Proof of the official Indian agent certificate of the firm must be attached. (Notary Certified Photocopy)
19. In order to fully and optimally utilize the equipment, training to Para Medical Staffs and Doctors should be provided. In continuation to this training, separate maintenance training for the machine and the sub systems should also be given to the "Equipment Maintenance Engineer" and "Equipment Maintenance Technicians". All the financial commitments in this regard shall be met by the bidder(s).
20. Bidder(s) have to submit an affidavit to the effect that they have not supplied the offered item(s) to any Govt., semi Govt. /Organization, Institution, etc. at the price lower than the price offered to I.G.I.M.S. – Patna.
21. All the claims regarding meeting the specifications shall be duly supported by appropriate, latest technical catalogues/brochures from the manufacturer. Simply stating that the equipment(s) meets the specifications is not sufficient and any such quotations will be summarily rejected. Computer printed documents or Photostat copy or laser printouts will not be accepted as technical catalogues / brochures.
22. Bidder might be required to demonstrate the system at the discretion of the institute.

23. **Notification of Award/Letter of Intent (LOI)**

- a. Before expiry of the tender validity period, the Institute will notify the successful Bidder(s) in writing, by registered / speed post or by fax or by email (to be confirmed by registered / speed post immediately afterwards) that its tender for equipment(s), which have been selected by the Institute, has been accepted, also briefly indicating there in the essential details like description, specification and quantity of the goods & services and corresponding prices accepted. This notification is undertaken by issuing a Letter of Intent (LOI) by the Institute.
- b. The successful bidder, upon receipt of the LOI, shall furnish the required performance security and submit an agreement in the prescribed format within ten days, failing which the EMD will be forfeited and the award will be cancelled.
- c. The Notification of Award shall constitute the conclusion of the Contract.

24. **Signing of Contract**

The successful bidder shall execute an agreement for ensuring satisfactory supply, installation, commissioning and the after sales service/support during the warranty period and during the Comprehensive Annual Maintenance Contract.

25. The Director reserves the right to accept or reject any or all tenders without assigning reasons.
26. The Director reserves the right to modify, add or delete any terms & conditions of the contract as and when required.

27. **Amendment of tender documents:**

- a. At any time prior to the dead line for submission of Tender, the Institute may, for any reason, modify the tender document by amendment.
- b. The amendment shall be notified and uploaded on the institute website [www.igims.org](http://www.igims.org) only and such amendments shall be binding on them thereafter.
- c. The Institute shall not be responsible for failure to inform the prospective bidders. Purchasers of tender documents are requested to browse the website of the Institute for information/general notices/amendments to tender document etc on a day to day basis till the tender is concluded.

28. The Dispute, if any, will be subject to Jurisdiction at Patna (Bihar).



**Director,  
I.G.I.M.S. - Patna**

## CONDITIONS OF THE CONTRACT

**01. Duty Free Clearance, Transportation, Forwarding & Handling Charges:**

Clearance charges at point of Entry / Air Port and on ward transportation charges with Insurance up to I.G.I.M.S. - Patna will be borne by supplier's Indian Agent for which this Institute will not pay the charges. The firm should quote as FOR IGIMS Patna including all expenditure in **Indian Rupees only**.

**02. Demurrage, Taxes & Octroi:-**

No demurrage charges will be paid by the Institute in case of delay on the part of supplier. However, this Institute will provide all necessary documents required for clearance / transportation of the goods and for exemption of the taxes/octroi for which supplier/Indian agent will have to intimate/furnish his requisition of document required, if any, well in advance. Octroi will be payable by supplier / Indian agent, if required.

**03. Warranty Period:**

- a. The “**Complete System**” shall remain under warranty period of **five years** from the date of satisfactory installation and commissioning. The Complete System should include the basic unit and allied supporting components like UPS etc. to be supplied by the bidder along with basic unit if necessary for running the system.
- b. During warranty period of five years, bidder shall provide at least **four maintenance visits per year** at regular interval for usual maintenance and supervision. If bidder fails to provide these maintenance visits at regular interval, a proportionate deduction in the form of penalty on pro-rata basis will be recovered from the bidder from the Bank Guarantee amount. In case the Bank Guarantee is not adequate, Institute shall have right to recover the losses / penalty from other sources as well.
- c. Bidder shall also attend all breakdown calls within 48 hours of the receipt of the information from institute through fax/e-mail/mobile/sms etc.
- d. During warranty period, **bidder** shall maintain and keep **95% uptime** per year of the “**Complete System**” as per calculation given below:-  
  
$$1 \text{ Year} = 365 \text{ days}$$
$$95\% \text{ of } 365 \text{ days} = 347 \text{ Days per annum}$$
- e. The bidder shall compensate the uptime less than the specified above for **every additional day** of down time over and above 18 days stipulated above, warranty period will get extended by one week as penalty at no extra cost i.e. the extended penalty period will be equal to one week for every additional day of down time.
- f. During warranty period, **bidder** will make the “**Complete System**” in satisfactory working condition. In case, any spare parts, accessories, PCB, all type of consumables etc. needs replacement due to normal wear and tear, **bidder** will supply and install the same for which no additional payment is to be made with validity to cover warranty period if required.
- g. In case, the **bidder** is not able to provide services (and the items / accessories is not functioning as the reason thereof) due to natural calamity (act of God), Political unrest, Riot and fire at the user site, then in such a situation the warranty period will be extended by the period for which the item / accessories could not be operated because of supplier not been able to provide services.
- h. During warranty period, in case of any alleged damage due to accident / human error, a committee under the Chairmanship of Director, I.G.I.M.S. – Patna with one member from the bidder and one member from the Institute will decide the authenticity of the claim. The decision of the committee shall be final and binding on both the parties.

**04. After Sales Services: -**

- a. After expiry of the warrantee/Guarantee period of the equipment, the Indian agent will have to undertake the Comprehensive Annual Maintenance contract (with spare parts, accessories, consumables etc.) of the Complete System for the further life span of equipment. The life span of the equipment shall not be less than ten years. In special circumstances the total life span of the Equipment/ items may be reduced by the Institute.
- b. The Complete System should include the basic unit and allied supporting components like UPS, Stabilizer, etc to be supplied by the bidder along with basic unit if necessary for running the system.
- c. During Comprehensive Annual Maintenance Contract, bidder shall provide at least **four maintenance visits per year** at regular interval for usual maintenance and supervision. If bidder fails to provide these maintenance visits at regular interval per year, a proportionate deduction in the form of penalty at the rate of 25% of contract amount per year will be deducted.
- d. Bidder shall also attend all breakdown calls within 48 hours of the receipt of the information from institute through fax/e-mail/mobile/sms etc.
- e. During Comprehensive Annual Maintenance Contract, **bidder** shall maintain and keep **95% uptime** per year of the “**Complete System**” as per calculation given below:-
 

1 Year = 365days  
**95% of 365 days = 347 Days per annum**
- f. The bidder shall compensate the uptime less than the specified above for **every additional day** of down time over and above 18 days stipulated above, warranty period will get extended by one week as penalty at no extra cost i.e. the extended penalty period will be equal to one week for every additional day of down time.
- g. During Comprehensive Annual Maintenance Contract, **bidder** will keep the “**Complete System**” in satisfactory working condition. In case, any spare parts, accessories, PCB, all type of consumables etc. needs replacement due to normal wear and tear, **bidder** will supply and install the same for which no additional payment is to be made. .If any spares / consumables / accessories etc. are not covered under Comprehensive Annual Maintenance Contract charges, it should be clearly mentioned with frequency of replacement and with rate. The validity of rate of such items should also be mentioned clearly. What will be the rate of escalation on the quoted rate after expiry of the validity of rate of such item must be mentioned.
- h. The payment of Comprehensive Annual Maintenance Contract will be made on half yearly basis after submission of satisfactory functioning report of the Complete System by the officials authorized by the Institute.
- i. In case, the **bidder** is not able to provide services (and the items / accessories is not functioning as the reason thereof) due to natural calamity (act of God), Political unrest, Riot and fire at the user site, then in such a situation the Comprehensive Annual Maintenance Contract will be extended by the period for which the item / accessories could not be operated because of supplier not being able to provide services.
- j. During Comprehensive Annual Maintenance Contract, in case of any alleged damage due to accident / human error, a committee under the Chairmanship of Director, I.G.I.M.S. – Patna with one member from the bidder and one member from the Institute will decide the authenticity of the claim. The decision of the committee shall be final and binding on both the parties.

05. **Performance Security**

- a. There will be a security deposit amounting to 10 % of the total value of the equipment excluding taxes, which shall be submitted by the successful bidder within 10 days from the date of issuance of “Letter of Intent”.
- b. The contract duly signed and returned to the Institute shall be accompanied by a demand Draft or Bank Guarantee in the prescribed format.
- c. Upon receipt of such contract and the security money deposit, the Institute shall issue the Supply Orders containing the terms and conditions for the execution of the order.
- d. Failure of the successful bidder in providing security money deposit as mentioned above and / or in returning contract copy duly signed in time shall make the bidder liable for forfeiture of its EMD.
- e. The Performance security shall be denominated in Indian Rupees or in the currency of the contract as detailed below:

- i. It shall be in any one of the forms namely Account Payee Demand Draft or Bank Guarantee issued by a Scheduled bank in India, in the prescribed form as provided in this document endorsed in favour of the Institute.
- ii. Institute will release the security money deposit without any interest to the successful bidder on completion of the successful bidder's all contractual obligations including the warranty obligations & after receipt of certificates confirming that all the contractual obligations have been successfully complied with.

06. **Delivery period/Liquidated Damage: -**

Goods should be delivered within three months after receipt of Supply Order. If the delivery is not affected by due date, the Director, I.G.I.M.S. - Patna shall have the right to charge liquidated damage on supplier/his Indian agent as under: -

- i. 1<sup>st</sup> extension for a month or a part thereof @ 2% per month .
- ii. 2<sup>nd</sup> extension for an additional month or a part thereof @ 3% per month subject to maximum Limit of 20% of the order items.
- iii. Cancellation.- If delivery is not done even after 2<sup>nd</sup> extension Institute shall have the right of cancellation of Supply order at its discretion. The institute may also cancel the supply order without giving any extension.

07. **Payment: -**

- a. 90% payment will be released against delivery and successful installation of the equipment & balance 10% will be released on submission of 10 % Bank Guarantee of the total cost of ordered value. This Bank Guarantee will be released after expiry of guarantee period.

08. **Validity of Price:-**

**This rate Contract will be valid for Two year from date of 1<sup>st</sup> satisfactory installation and acceptance of the equipment. Repeat Supply Order will be placed as per requirement of the Institute of all the quoted and approved items. The rate contract may be further extended for period of one year as decided by Director, IGIMS-Patna.**

09. **Part Supply:**

No part supply/ wrong supply or short supply will be accepted by the Institute. The Director IGIMS, Patna will be the final authority and will have the right to reject full or any part of supply, which is contradictory to the terms and conditions agreed at the time of placement of order. In case of rejection of any supplied items due to nonconformity in quantity and/or quality, Institute will have right to charge liquidated damages, as it deems fit.

10. **Packing & Marking:-**

Goods must be securely and adequately packed and protected in order to prevent damage, otherwise all losses and /or damage resulting from inadequate packing and/or inadequate protection or inadequate marking shall be borne by seller/seller's Principal abroad.

11. Supplier may have to provide required manpower for running the equipments at mutually agreed remuneration (Which shall not be more than remuneration payable for the particular category of staff at IGIMS) at the sole discretion of the Institute, till institute is able to arrange its own staff for the purpose.

12. **Insurance: -**

Insurance up to Patna will be borne/arranged by principal supplier/his Indian Agent.

13. **Installation & site plan:**

Requirement regarding site/location for installation of equipment, if any, should be mentioned in the tender. Time required for installation of system after delivery must be mentioned. In case of delay in installation institute will have right to charge liquidated damage.

Specify the following points for installation of the System: -

- a. Total power consumption along with breakup of main System and Accessories.
- b. Whether the System needs uninterrupted power supply.

- c. Maximum tolerated transfer time in case of interruption of power supply.
  - d. Whether the System needs any humidity control device.
  - e. Whether the System needs any separate power line/isolation Transformer.
  - f. Does the System need the electrical shielding?
  - g. Whether Air Conditioner is required for the System.
  - h. Does it require special civil works for installation?
14. The bidder should also quote for supply of “Un-Interrupted Power Supply” (UPS) with a battery backup of at least 30 minutes, “Constant Voltage Transformer (CVT)” of reputed manufacturer of required capacity along with Spike Suppressor or “Servo Voltage Stabilizer” as per requirement of the System. Bidder may quote the prices for all the above items (UPS/CVT/SERVO VOLTAGE STABILIZER) and the decision will be taken during technical evaluation of the item whether UPS is suitable or CVT / Servo Voltage Stabilizer will serve the purpose.

15. **Responsibility:-**

The principal as well as its agent will be severally and jointly responsible for ensuring the minimum life span of 10 years for the equipment. Both the said principal abroad and his Indian agent will have the full responsibility for the proper functioning of the equipment/instruments within the warranty period and thereafter during the life span of the equipment

16. The bidder is required to provide list of persons (along with their permanent and correspondence address) owing more than 1% share ownership in the company/firm (both principle and Indian Agent).
17. The bidder is required to submit compliance sheet, which should reflect details of clause-by-clause compliance of technical specifications as well as general terms & conditions failing which their offer shall be rejected.
18. In order to fully and optimally utilize the equipment, training to paramedical staff and Doctors should be provided. In continuation to this training a separate maintenance training for the machine and the sub system should also be given to the Equipment Maintenance Engineer and Maintenance Technicians of the Institute. All the financial commitment in this regard shall be met by the firm/Principal.

19. **Penalties for non-performance**

The penalties to be imposed, at any stage, under this tender are;

- a. imposition of liquidated damages,
- b. forfeiture of EMD/ Security money deposit,
- c. termination of the contract,
- d. Blacklisting/debarring of the bidder.

20. **Termination of Contract**

- a. Termination for default:- The Institute, without prejudice to any other contractual rights and remedies available to it (the Institute), may, by written notice of default sent to the successful bidder, terminate the contract in whole or in part, if the successful Bidder fails to deliver any or all of the goods or fails to perform any other contractual obligation(s) within the time period specified in the contract, or within any extension thereof granted by the Institute.
- b. In the event of the Institute terminates the contract in whole or in part, the Institute may procure goods and/or services similar to those cancelled, with such terms and conditions and in such manner as it deems fit and the successful bidder shall be liable to the Institute for the extra expenditure, if any, incurred by the Institute for arranging such procurement.
- c. Unless otherwise instructed by the Institute, the successful bidder shall continue to perform the contract to the extent not terminated.
- d. Termination for insolvency: If the successful bidder becomes bankrupt or otherwise insolvent,

the Institute reserves the right to terminate the contract at any time, by serving written notice to the successful bidder without any compensation, whatsoever, to the successful Bidder, subject to further condition that such termination will not prejudice or affect the rights and remedies which have accrued and / or will accrue thereafter to the Institute.

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

21. **Fall Clause:**

The prices charged for the equipment supplies under the contract by successful bidder shall in no event exceed the lowest price at which the successful bidder sells the equipment's of identical description to any other persons during the period of contract. If any time, during the contract, the bidder reduces the sales price chargeable under the contract, he shall forth with notify such reduction to the Institute and the price payable under the contract of the equipment's supplied after the date of coming into force of such reduction or sale shall stand correspondingly reduced.

22. **Applicable Law & Jurisdiction of Courts**

- a. The contract shall be governed by and interpreted in accordance with the laws of India for the time being in force.
- b. All disputes arising out of this tender will be subject to the jurisdiction of courts of law in Patna (Bihar, India).



**Director,  
IGIMS - Patna.**



**CHAPTER:**  
**SCHEDULE OF THE REQUIREMENT**

List of Equipment's
Group -K: State Cancer Institute
Supply, installation, commissioning and testing of Modular Operation Theatre (5 nos.)

**ANNEXURES**

**Annexure - I**  
**(To be submitted with TECHNICAL BID)**

**PERSONNEL CAPABILITIES**

S. No	Designation	Total Number	Number available for this work	Name	Qualification	Professional Experience	Remarks

**Annexure – II**  
**(To be submitted with TECHNICAL BID)**

**EQUIPMENT CAPABILITIES**

S. No	Name of the Equipment	Number	Capacity	Age	Condition	Remarks

**Annexure – III**  
**(To be submitted with TECHNICAL BID)**

**FINANCIAL CAPABILITIES**

Financial Year	Annual Turn Over in Indian Rupees (or equivalent to Indian Rupees) as per Audited Balance Sheet
2016-2017	Rs.
2017-2018	Rs.
2019-2020	Rs.

(Rs. In lacs)

Financial Information in Rs. Equivalent	For Years 2014-2015	For Years 2015-2016	For Years 2016-2017	For Years 2017-2018	For Years 2019- 20
1. Total Assets					
2. Current Assets					

<b>3. Total Liabilities</b>					
<b>4. Current Liabilities</b>					
<b>5. Profit before Tax</b>					
<b>6. Profit after Tax</b>					
<b>7. Net Worth</b>					

**NOTE : The above data is to be supported by audited balance sheets**

1. Attach copies of audited balance sheet.
2. Attach recent solvency certificate from bankers.
3. Indicate financial arrangements for carrying out the proposed work.

**Authorized Signatory of bidder**

(To be submitted with TECHNICAL BID)

**EXPERIENCE OF COMPLETION OF PROJECTS OF SIMILAR NATURE & COMPLEXITY**

(During last five years ending last day of month previous to the one in which applications are invited)

S.No.	Name of work / Project and location	Owner or sponsoring organization	Cost of work in Lakhs	Date o commencement as per contract	Stipulated date of completion	Actual date of completion	Name and address/ Telephone/ Fax number/ Email of officer to whom reference	Remarks

**NOTE: Please attach supporting documents (completion certificates along with order copies) for the above nformation****Authorized Signatory of bidder**

(To be submitted with TECHNICAL BID)

**Litigation Details (Court Cases / Arbitration)**

Name of Bidder:							
Year	Name of the work	Name of the client, with Address	Title of the court case / arbitration	Detail of the Court / Arbitrator	Status Pending / Decided	Disputed Amount (Current Value, the equivalent in case of Court Cases/ Arbitration	Actual Awarded Amount (Rs) in decided Court Cases / arbitration

Authorized Signatory of bidder

**Check List to be submitted in Technical bid.**

Sr. No.	Criteria	Requirements	Cross Referencing / Page no. at which required information is available (To be mentioned)	Indicate Eligibility Y/N
1	<b>Bid Security</b>	<b>Bid Security</b> amount deposited is enclosed or not. If yes, please mention the details.		
2	<b>Tender Document Fee</b>	<b>Tender Document Fee is enclosed or not. If yes, please mention the details.</b>		
3	<b>Turnover for each last three years</b>	Rs. 10 Crores every financial year		
4	<b>Experience</b>	During last 5 years, the bidder must have completed three similar works of value not less than 1 crores .		
5	<b>Personnel Capabilities</b>	List of suitably qualified and experienced personnel in relevant field		
6	<b>Equipment Capabilities</b>	List of equipment required and proposed to be deployed & source of such equipments		
7	<b>Financial Capabilities</b>	Company should have positive Net Worth and should not have incurred loss in more than Two years in last Five years ending 31st March, 2019 duly certified by the Chartered Account.		
8	<b>Solvency Certificate</b>	Solvency certificate from applicant's bank for 50% of estimated cost not older than one year.		
9	<b>Abandoning / Blacklisting</b>	Information regarding not Abandoned /Black listing for any work of Union Govt./State Govt./CCI/PSU's etc. during last 5 years		
10	<b>Works Contract Tax/ GST Registration with the appropriate Authorities.</b>	In case the firm is not registered at the time of Submission of bid, a declaration by the firm that they will get themselves registered with the concerned authorities in case they are awarded the work is submitted.		
11.		<b>Notary certified User List</b> (List of Govt. / Semi Govt., Reputed Pvt. Hospital) where quoted model of the items has been supplied and installed.		
12.		<b>Notary certified Supply</b> order copy (Minimum five nos. or more) issued by Govt./Semi Govt./Reputed Pvt. Institutions/organization for the quoted items. ( same model)		
13.		<b>Notary certified Performance certificate</b> of the same supplied machine (of quoted make and Model) issued by <b>Head of the dept. or Institution</b> after a minimum period of six months of installation.		
14		Affidavit, to the effect that the bidder is not supplying the quoted item(s) to any other Govt. / Pvt. Organizations / Institutions / Hospitals at the rate lower than the rate quoted against this tender.		
15		PAN No. Registration No. GST No.:		
16.		<b>Bid Security</b> amount deposited is enclosed or not. If yes, please mention the details.		
17.		<b>Tender Document Fee is enclosed or not. If yes, please mention the details.</b>		
18.		<b>Original Technical Catalogue</b> of the quoted model .		

19.		<p>Certificate, to the effect that bidder will maintain the quoted item(s) during Warranty period of five years as mentioned against each item including all spares, accessories, consumables etc.,</p> <p>(Please mention the name of the item / items with price, which are not supplied by the bidder free of cost with frequency of replacement)</p>		
20.		<p>Certificate, to the effect that bidder has quoted its rate for Comprehensive Annual Maintenance Contract inclusive of labour, spares, consumables, accessories etc. on per year basis for a further period of five years after expiry of warranty period of five years in the <b>price bid</b>.</p> <p>(Please mention the name of the item / items with price, which are not supplied by the bidder free of cost with frequency of replacement during Comprehensive Annual Maintenance Contract period in the price bid)</p>		
21.		Acceptance of all terms / conditions towards <b>after sales / services</b> as mentioned in the bidding document.		
22.		<b>Compliance Statement</b> with relation to the technical specification as mentioned in the bidding document duly supported by the original catalogue. The bidder must quote specification in the compliance column Mere writing” Complied shall not be accepted.		
23.		<b>Compliance Statement</b> with relation to the terms & conditions as mentioned in the document.		
24.		<b>PAN and copies of Income Tax Returns</b> for the last three years.		
25.		Duly attested copy of GST registration certificate.		

**Authorized Signature with Stamp**

(To be submitted in Price Bid)

**Format of Price Bid:****A. 3<sup>rd</sup> Floor SCI Building (North Side). Size: 6100 mm X 6100 mm (Qty.: 2 Nos.)**

Sl.NO.	DESCRIPTION	Qty	Unit	Unit Rate	Amount	GST	Net Amount
1.	2.	3.	4.	5.	6 (3x5)	7	8 (6+7)
1	<b>Walling &amp; Ceiling constructions / Panel</b> (As per Tender Specification)		Sqm				
2	<b>Anti Bacterial Paint</b> (As per Tender Specification)		Sqm				
3	<b>Antistatic Flooring including leveling, copper taping and connecting to the earth.</b> (As per Tender Specification)		Sqm				
4	<b>Laminar Air Flow System (Complete with all required ducting and return air grills of required size.)</b> (As per Tender Specification)		No.				
5	<b>Automatic Door- Hermetically sealed Sliding Door</b> (As per Tender Specification)		No.				
6	<b>Single Flap Swing Door</b> (As per Tender Specification)		No.				
7	<b>Control panel- Membrane type ( With AHU monitoring, temperature and humidity monitoring)</b> (As per Tender Specification)		No.				
8	<b>Distribution Box</b> (As per Tender Specification)		No.				
9	<b>X-Ray View screens</b> (As per Tender Specification)		No.				
10	<b>Pressure Relief Damper</b> (As per Tender Specification)		No.				
11	<b>Peripheral Lights with dimming control</b> (As per Tender Specification)		Nos.				
12	<b>Storage Unit</b> (As per Tender Specification)		No.				
13	<b>Writing List Board</b> (As per Tender Specification)		No.				
14	<b>Hatch Box</b> (As per Tender Specification)		No.				
15	<b>Surgical Scrub Sink- Two Bay</b> (As per Tender Specification)		No.				
16	<b>LED OT Light with HD camera system</b> (As per Tender Specification)		No.				
17	<b>Single arm Anesthesia Pendant (Non Motorized)</b> (As per Tender Specification)		No.				
18	<b>Double arm Surgeon Pendant (Motorized)</b> (As per Tender Specification)		No.				
19	<b>Medical Gas Pipeline &amp; Fitting inside the O.T. (For Oxygen, Nitrous, Vacuum, Compressed Air.)</b> (As per Tender Specification)		Lot				

20	<b>Isolation Power Transformer System (IPS)</b> (As per Tender Specification)		Lot				
21	<b>Electrical System</b> (As per Tender Specification)		No				
22	<b>HVAC system for Modular OT</b> (As per Tender Specification)		Lot				
23	<b>Ultra Violet Lights</b> (As per Tender Specification)		Lot				
24	<b>Touch Screen Monitors with Desk Top</b> (As per Tender Specification)		Lot				
25	<b>Aanesthetic Gas Scavenging Disposal System (AGSS)</b> (As per Tender Specification)		Nos.				
<b>Total inclusive of all taxes</b>							
In words :							

**B. 3<sup>rd</sup> Floor SCI Building (South Side). Size: 5270 mm X 5830 mm**

Sl.NO.	DESCRIPTION	Qty	Unit	Unit Rate	Amount	GST	Net Amount
1.	2.	3.	4.	5.	6 (3x5)	7	8 (6+7)
1	<b>Walling &amp; Ceiling constructions / Panel</b> (As per Tender Specification)		Sqm				
2	<b>Anti Bacterial Paint</b> (As per Tender Specification)		Sqm				
3	<b>Antistatic Flooring including leveling, copper taping and connecting to the earth.</b> (As per Tender Specification)		Sqm				
4	<b>Laminar Air Flow System (Complete with all required ducting and return air grills of required size.)</b> (As per Tender Specification)		No.				
5	<b>Automatic Door- Hermetically sealed Sliding Door</b> (As per Tender Specification)		No.				
6	<b>Single Flap Swing Door</b> (As per Tender Specification)		No.				
7	<b>Control panel- Membrane type ( With AHU monitoring, temperature and humidity monitoring)</b> (As per Tender Specification)		No.				
8	<b>Distribution Box</b> (As per Tender Specification)		No.				
9	<b>X-Ray View screens</b> (As per Tender Specification)		No.				
10	<b>Pressure Relief Damper</b> (As per Tender Specification)		No.				
11	<b>Peripheral Lights with dimming control</b> (As per Tender Specification)		Nos.				
12	<b>Storage Unit</b> (As per Tender Specification)		No.				
13	<b>Writing List Board</b> (As per Tender Specification)		No.				
14	<b>Hatch Box</b> (As per Tender Specification)		No.				
15	<b>Surgical Scrub Sink- Two Bay</b> (As per Tender Specification)		No.				
16	<b>LED OT Light with HD camera system</b>		No.				



	(As per Tender Specification)						
17	<b>Single arm Anesthesia Pendent (Non Motorized)</b> (As per Tender Specification)		No.				
18	<b>Double arm Surgeon Pendent (Motorized)</b> (As per Tender Specification)		No.				
19	<b>Medical Gas Pipeline &amp; Fitting inside the O.T. (For Oxygen, Nitrous, Vacuum, Compressed Air.)</b> (As per Tender Specification)		Lot				
20	<b>Isolation Power Transformer System (IPS)</b> (As per Tender Specification)		Lot				
21	<b>Electrical System</b> (As per Tender Specification)		No				
22	<b>HVAC system for Modular OT</b> (As per Tender Specification)		Lot				
23	<b>Ultra Violet Lights</b> (As per Tender Specification)		Lot				
24	<b>Touch Screen Monitors with Desk Top</b> (As per Tender Specification)		Lot				
25	<b>Aanesthetic Gas Scavenging Disposal System (AGSS)</b> (As per Tender Specification)		Nos.				
<b>Total inclusive of all taxes</b>							
In words :							

**C. 3<sup>rd</sup> Floor SCI Building (South Side). Size: 5200 mm X 5820 mm**

Sl.NO.	DESCRIPTION	Qty	Unit	Unit Rate	Amount	GST	Net Amount
1.	2.	3.	4.	5.	6 (3x5)	7	8 (6+7)
1	<b>Walling &amp; Ceiling constructions / Panel</b> (As per Tender Specification)		Sqm				
2	<b>Anti Bacterial Paint</b> (As per Tender Specification)		Sqm				
3	<b>Antistatic Flooring including leveling, copper taping and connecting to the earth.</b> (As per Tender Specification)		Sqm				
4	<b>Laminar Air Flow System (Complete with all required ducting and return air grills of required size.)</b> (As per Tender Specification)		No.				
5	<b>Automatic Door- Hermetically sealed Sliding Door</b> (As per Tender Specification)		No.				
6	<b>Single Flap Swing Door</b> (As per Tender Specification)		No.				
7	<b>Control panel- Membrane type ( With AHU monitoring, temperature and humidity monitoring)</b> (As per Tender Specification)		No.				
8	<b>Distribution Box</b> (As per Tender Specification)		No.				
9	<b>X-Ray View screens</b> (As per Tender Specification)		No.				
10	<b>Pressure Relief Damper</b> (As per Tender Specification)		No.				

11	<b>Peripheral Lights with dimming control</b> (As per Tender Specification)		Nos.				
12	<b>Storage Unit</b> (As per Tender Specification)		No.				
13	<b>Writing List Board</b> (As per Tender Specification)		No.				
14	<b>Hatch Box</b> (As per Tender Specification)		No.				
15	<b>Surgical Scrub Sink- Two Bay</b> (As per Tender Specification)		No.				
16	<b>LED OT Light with HD camera system</b> (As per Tender Specification)		No.				
17	<b>Single arm Anesthesia Pendant (Non Motorized)</b> (As per Tender Specification)		No.				
18	<b>Double arm Surgeon Pendant (Motorized)</b> (As per Tender Specification)		No.				
19	<b>Medical Gas Pipeline &amp; Fitting inside the O.T. (For Oxygen, Nitrous, Vacuum, Compressed Air.)</b> (As per Tender Specification)		Lot				
20	<b>Isolation Power Transformer System (IPS)</b> (As per Tender Specification)		Lot				
21	<b>Electrical System</b> (As per Tender Specification)		No				
22	<b>HVAC system for Modular OT</b> (As per Tender Specification)		Lot				
23	<b>Ultra Violet Lights</b> (As per Tender Specification)		Lot				
24	<b>Touch Screen Monitors with Desk Top</b> (As per Tender Specification)		Lot				
25	<b>Aanesthetic Gas Scavenging Disposal System (AGSS)</b> (As per Tender Specification)		Nos.				
<b>Total inclusive of all taxes</b>							
In words :							

**D. 1<sup>st</sup> Floor SCI Building : Size: 5750 mm X 5730 mm**

Sl.NO.	DESCRIPTION	Qty	Unit	Unit Rate	Amount	GST	Net Amount
1.	2.	3.	4.	5.	6 (3x5)	7	8 (6+7)
1	<b>Walling &amp; Ceiling constructions / Panel</b> (As per Tender Specification)		Sqm				
2	<b>Anti Bacterial Paint</b> (As per Tender Specification)		Sqm				
3	<b>Antistatic Flooring including leveling, copper taping and connecting to the earth.</b> (As per Tender Specification)		Sqm				
4	<b>Laminar Air Flow System (Complete with all required ducting and return air grills of required size.)</b> (As per Tender Specification)		No.				
5	<b>Automatic Door- Hermetically sealed Sliding Door</b> (As per Tender Specification)		No.				
6	<b>Single Flap Swing Door</b> (As per Tender Specification)		No.				

7	<b>Control panel- Membrane type ( With AHU monitoring, temperature and humidity monitoring)</b> (As per Tender Specification)		No.				
8	<b>Distribution Box</b> (As per Tender Specification)		No.				
9	<b>X-Ray View screens</b> (As per Tender Specification)		No.				
10	<b>Pressure Relief Damper</b> (As per Tender Specification)		No.				
11	<b>Peripheral Lights with dimming control</b> (As per Tender Specification)		Nos.				
12	<b>Storage Unit</b> (As per Tender Specification)		No.				
13	<b>Writing List Board</b> (As per Tender Specification)		No.				
14	<b>Hatch Box</b> (As per Tender Specification)		No.				
15	<b>Surgical Scrub Sink- Two Bay</b> (As per Tender Specification)		No.				
16	<b>LED OT Light with HD camera system</b> (As per Tender Specification)		No.				
17	<b>Single arm Anesthesia Pendant (Non Motorized)</b> (As per Tender Specification)		No.				
18	<b>Double arm Surgeon Pendant (Motorized)</b> (As per Tender Specification)		No.				
19	<b>Medical Gas Pipeline &amp; Fitting inside the O.T. (For Oxygen, Nitrous, Vacuum, Compressed Air.)</b> (As per Tender Specification)		Lot				
20	<b>Isolation Power Transformer System (IPS)</b> (As per Tender Specification)		Lot				
21	<b>Electrical System</b> (As per Tender Specification)		No				
22	<b>HVAC system for Modular OT</b> (As per Tender Specification)		Lot				
23	<b>Ultra Violet Lights</b> (As per Tender Specification)		Lot				
24	<b>Touch Screen Monitors with Desk Top</b> (As per Tender Specification)		Lot				
25	<b>Aanesthetic Gas Scavenging Disposal System (AGSS)</b> (As per Tender Specification)		Nos.				
<b>Total inclusive of all taxes</b>							
In words :							

(To be submitted in Price Bid)

Rate for Comprehensive Annual Maintenance Contract as per terms & conditions mentioned in the Bidding Document and as per format mentioned below:
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S. No.	Item Description	1 <sup>st</sup> Yr.	2 <sup>nd</sup> Yr.	3 <sup>rd</sup> Yr.	4 <sup>th</sup> Yr.	5 <sup>th</sup> Yr.	Total Comprehensive Annual Maintenance Contract over a period of five years after expiry of warranty period of five years from the date of successful installation.
a	b	c	d	e	f	g	I (c + d + e + f + g)
1.	O. T. – 1						
2.	O.T. - 2						
3.	O. T. – 3						
4.	O. T. – 4						
5.	O. T. - 5						

**Scope of Contract (details as mentioned in the Clause No. – 13 of “Instruction to Bidder” & Clauses No.: 3, 4 and 5 of “Condition of Contract”):**

- The rate of Comprehensive Annual Maintenance Contract as mentioned above should cover the Complete System. Complete System should include the basic unit and allied supporting components like UPS, Stabilizer, Computer System, Printer, De-ionizer, Dehumidifier etc to be supplied by the bidder along with basic unit.
- Preventive maintenance visit:** Four Maintenance visits at regular interval for usual maintenance & supervision failing which 25% of the contract amount per visit would be deducted as penalty.
- Break down maintenance visit:** As & when required
- Response Time:** within 48 Hours.
- Uptime Guarantee: 95% of 365 days
- The above-mentioned charges should includes labour charges for maintenance and breakdown visits per year, spares, accessories and all type of consumables required for the maintenance of the supplied items. If any spares / consumables /accessories etc. are not covered under above-mentioned charges; it should be clearly mentioned with frequency of replacement and with rate. The validity of rate of such items should also be mentioned clearly. What will be the rate of escalation on the quoted rate after expiry of the validity of rate of such item must be mentioned.
- Payment of Comprehensive Annual Maintenance Contract would be made on half yearly basis after completion of work and satisfactory working report. In no case, advance payment is to be considered.

**Seal and Signature of the bidder**

**ANNEXURE – VII**  
**(To be submitted with TECHNICAL BID)**

**MANUFACTURER’S AUTHORISATION FORM**

**(To be submitted by authorized dealers/representatives/importers with TECHNICAL BID))**

No.

Dated:

To

The Director  
Indira Gandhi Institute of Medical Sciences,  
Sheikhpura,  
Patna – 800 014 (Bihar, India)

Dear Sir,

Tender No :  
Equipment Name :

1. We ..... (Name of the OEM) are the original manufacturers of the above equipment having registered office at ..... (full address with telephone number/fax number & email ID and website), having factories at \_\_\_\_\_ and \_\_\_\_\_ , do hereby authorize M/s. \_\_\_\_\_ (Name and address of bidder) to submit tenders, and subsequently negotiate and sign the contract with you against the above tender no.
2. No company or firm or individual other than M/s. \_\_\_\_\_ are authorized to bid, negotiate and conclude the contract in regard to this business against this specific tender.
3. We also hereby undertake to provide full guarantee/warranty /Comprehensive Annual Maintenance Contract as agreed by the bidder in the event the bidder is changed as the dealers or the bidder fails to provide satisfactory after sales and service during such period of Comprehensive Warranty / Comprehensive Annual Maintenance Contract and to supply all the spares/ accessories / consumables etc. during the said period.
4. We also hereby declare that we have the capacity to manufacture and supply, install and commission the quantity of the equipment’s tendered within the stipulated time.

(Name)  
for and on behalf of M/s. \_\_\_\_\_

Date:

(Name of manufacturers)

Place:

**Note: This letter of authority should be on the letterhead of the manufacturing concern and should be signed by a person competent and having the power of attorney to bind the manufacturer.**

**ANNEXURE – VIII**

**BANK GUARANTEE FORM**

To

The Director  
Indira Gandhi Institute of Medical Sciences,  
Sheikhpura,  
Patna – 800 014 (Bihar, India)

WHEREAS \_\_\_\_\_ (Name and address of the supplier) (Hereinafter called “the supplier”) has undertaken, in pursuance of tender no \_\_\_\_\_ dated \_\_\_\_\_ (herein after called “the contract”) to supply The Director, Indira Gandhi Institute of Medical Sciences, (address) with \_\_\_\_\_ (Description of goods and supplies).

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

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

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

We undertake to pay you any money so demanded notwithstanding any dispute or disputes raised by the supplier(s) in any suit or proceeding pending before any Court or tribunal relating thereto our liability under these presents being absolute and unequivocal.

We agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition no modification. No action, event, or condition that by any applicable law should operate to discharge us from liability, hereunder shall have any effect and we hereby waive any right we may have to apply such law, so that in all respects our liability hereunder shall be irrevocable and except as stated herein, unconditional in all respects.

This guarantee will not be discharged due to the change in the constitution of the Bank or the Supplier(s).

We, \_\_\_\_\_ (indicate the name of bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent, in writing, of The Director, Indira Gandhi Institute of Medical Sciences, Patna (Bihar). This Guarantee will remain in force up to (Date). Unless a claim or a demand in writing is made against the bank in terms of this guarantee on or before the expiry of (Date) all your rights in the said guarantee shall be forfeited and we shall be relieved and discharged from all the liability there under irrespective of whether the original guarantee is received by us or not.

(Signature with date of the authorized officer of the Bank) .....

Name and designation of the officer

.....  
.....

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

**ANNEXURE – IX**

**(TO BE SUBMITTED WITH TECHNICAL BID)**

**POWER OF ATTORNEY**

**(On a Stamp Paper of relevant value)**

I/ We.....(name and address of the registered office) do here  
by constitute, appoint and authorise Sri/Smt.....  
.....(name and address) who is presently employed with us and holding the position of  
..... as our attorney, to act and sign on my/our behalf to participate in the tender no.....f or..... (Equipment name).

I/ We hereby also undertake that I/we will be responsible for all action of Sri/Smt..... undertaken by him/her during the tender process and thereafter on award of the contract. His / her signature is attested below

Dated this the \_\_\_ day of 202\_ For \_\_\_\_\_

(Name, Designation and Address)

Accepted

\_\_\_\_\_  
(Signature) (Name, Title and Address of the Attorney)

Date : \_\_\_\_\_

# Specification & Allied Technical Details

## Group-K: State Cancer Institute-II

### 1. Technical Specifications of Modular OTs

S. No.	Description
1.	<b>Walling &amp; Ceiling constructions / Panel</b>
2.	<b>Anti Bacterial Paint</b>
3.	<b>Antistatic Flooring including leveling, copper taping and connecting to the earth.</b>
4.	<b>Laminar Air Flow System (Complete with all required ducting and return air grills of required size.)</b>
5.	<b>Automatic Door- Hermetically sealed Sliding Door</b>
6.	<b>Single Flap Swing Door</b>
7.	<b>Control panel- Membrane type ( With AHU monitoring, temperature and humidity monitoring)</b>
8.	<b>Distribution Box</b>
9.	<b>X-Ray View screens</b>
10.	<b>Pressure Relief Damper</b>
11.	<b>Peripheral Lights with dimming control</b>
12.	<b>Storage Unit</b>
13.	<b>Writing List Board</b>
14.	<b>Hatch Box</b>
15.	<b>Surgical Scrub Sink- Two Bay</b>
16.	<b>LED OT Light with HD camera system</b>
17.	<b>Single arm Anesthesia Pendent (Non Motorized)</b>
18.	<b>Double arm Surgeon Pendent (Motorized)</b>
19.	<b>Medical Gas Pipeline &amp; Fitting inside the O.T. (For Oxygen, Nitrous, Vacuum, Compressed Air.)</b>
20.	<b>Isolation Power Transformer System (IPS)</b>
21.	<b>Electrical System</b>
22.	<b>HVAC system for Modular OT</b>
23.	<b>Ultra Violet Lights</b>
24.	<b>Touch Screen Monitors with Desk Top</b>
25.	<b>Aanesthetic Gas Scavenging Disposal System (AGSS)</b>

### 1. Wall & Ceiling Construction

a	<ul style="list-style-type: none"> <li>• The inner surfaces walls should be constructed with 1.60 mm thick EGP steel panels backed by 12-mm gypsum board.</li> <li>• The inner surface walls should be fixed to the bricks wall with essential supports. There should be minimum possible cavity/gap in between the solid and steel walls. The total distance between the inside and outside surfaces of the operating room will be variable to suit the architect's layout, but will be sufficient for the flush mounting of equipments.</li> <li>• The individual wall panels will be spot welded together at equal intervals to render equal support to the panels. Spot welding will be properly grinded to make the surface leveled.</li> <li>• All joints will be filled with metal filler and sanded flush on site ready to receive the plastic finish. Wall panel's joints will be invisible after the final wall coating is applied.</li> <li>• The cavity between the inner and outer walls will be left with minimum obstruction for the 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 will be flush mounted and sealed into theatre.</li> <li>• The wall panels design and construction will allow for the installation and support of all equipment and the provision of opening required for the installation, without affecting rigidity and strength. Access boxes will be fitted to the rear of all wall mounted equipment to enable maintenance to be carried out from outside the operating room.</li> <li>• All the sharp edges and corners will be in radius to avoid bacterial contamination.</li> <li>• The internal surfaces of the room walls will be sprayed with water based liquid plastic, wall glaze or equivalent, approved by the client to a minimum dry film thickness of 300 microns. The plastic coating will overlap the floor covering ceiling system and doorframes by 25mm to provide a continuous sealed surface. The plastic coating will be non- reflective and the color will be submitted to the client for approval.</li> <li>• All the four corners should have return air duct outlets, the grill of which should be made of MS steel , duly powder coated with colour choice to suit the hospital</li> </ul>
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	<ul style="list-style-type: none"> <li>• These panels should have flame resistance to BS1142 part 3</li> </ul>
	<p><b><u>CEILING SYSTEM</u></b></p> <ul style="list-style-type: none"> <li>• The ceiling plates / cassettes should be made up of stainless steel sheets, 0.8 mm thick with mat finish and should be polyurethane powder coated.</li> <li>• Support Element: Suspension bracket with tension spring.</li> <li>• Material: High quality galvanized or powder coated steel.</li> <li>• Room lighting, air supply inlet, ceiling service units, return air outlets etc. as should be integrated with SS metal ceiling system.</li> <li>• The individual panels except those at the edges should be removable individually.</li> <li>• All the four corners should have return air duct outlets and grill for the same made of steel duly powder coated with the color choice to suit the hospital's choice.</li> <li>• The ceiling material should be CE certified according to EN.</li> </ul>

## 2. Anti Bacterial Paint

S. No.	Specification
	<p>Paint should be superior quality, special acrylic based emulsion paint with an advanced HCT formula that can withstand hairline cracks normally associated with internal cement plastered walls. Paint must be lab tested and should have a stretch tolerance of between 0.1 mm to 1 mm. It should have excellent flow properties and washability. This paint must have good opacity and leveling thereby create high-class finish, also offer resistance against Bacterial and fungal growth on interior walls and should be approved by Ministry of Health.</p>

## 3. Antistatic Flooring

S. No.	Specification
	<ul style="list-style-type: none"> <li>• It should be with 2mm antistatic seamless PVC flooring</li> <li>• Floor should be smooth, non-slip, impervious material conductive enough to dissipate static electricity but not conductive enough to endanger personnel from electric shock.</li> <li>• Electrostatic charge dissipation combat PVC seamless flooring of very high quality should be provided</li> <li>• Thickness not less than 3mm. Continuous roll should be used and joints should be welded by special PVC thermal welding units using PVC welding bars of same colour</li> <li>• The sheets should be highly durable with resistance to shock and indentation. It should be scratchproof also. The conductive material should be uniformly impregnated as grains</li> <li>• It should be inert to body fluids, chemicals and disinfectants. Should not be affected by temperature variation within the OR The floor should efficiently discharge electric charges up to 2 kV</li> <li>• Flooring installation should be done by skilled workers of accredited agencies authorized by the supplier of PVC sheets. The electrical resistance (point to ground) should be within <math>2.5 \times 10^4</math> to <math>5 \times 10^6</math> ohms. The floor should not allow build up of electrical charge beyond 100volts due to antistatic effect. The corners should not be terminated sharply and concealed cove- former (aluminum) should be used overlap the wall panel to a height of approx.25mm and sealed perfectly and uniformly. Self leveling compounds should be used for this purpose.</li> <li>• The conductive copper grid laid underneath the PVC sheet should be supported by liquid epoxy compounds allowed to set as a uniform and level surface. The copper strips to be made visible by grinding and no copper strip should project more than 0.5mm above level surface to avoid damage to the PVC sheet. One earthing lead should be brought out from every 150 sq.ft area and attaching it to the main earthing strip/ground</li> <li>• Copper grounding strips (0.05 mm thick, 50 mm width) should be laid flat on the floor in the conductive adhesive and connected to copper strip of grounding. The connection from copper grid should be brought out uniformly at places to form equipotential grid.</li> <li>• Flooring should be mechanically shock proof, scratch proof, flame retardant and anti microbial</li> <li>• Corners should be uniformly curved</li> <li>• Final surface should be non corrosive to biological fluids and detergents</li> <li>• Colour should be uniform pleasant and matching with ambience.</li> </ul>

## 4. Laminar Air Flow System:

S. No.	Specification
	<ul style="list-style-type: none"> <li>• The ceiling filtration system should be designed to ensure unidirectional distribution of sterile air with differential flow velocities decreasing from centre to perimeter of the surgical theatre to ensure the cleanliness of all the area covered by the air flow.</li> <li>• The Laminar flow system should comprise of thick extruded aluminum profiles frame and sealed gasket. The filters installed in the plenum should be suitable for application for laminar flow and clean rooms. These</li> </ul>

filters should meet following specification.

- Protective grids : white epoxy painted micro drawn grid Separators : continuous thermo plastic chord Sealant : Polyurethane Gasket : One piece polyurethane MPPS average efficiency: > 99.95% 3 Micron D OP efficiency > 99.99%  
Final Pressure drop: 600 pa(max)  
Maximum Operating Temp : 60 degree Celsius  
Maximum RH : 40-50 %
- The ceiling system should be equipped with “S” class HEPA filters with different performances according to their position in the ceiling to achieve different flow velocities.
- The complete filtration ceiling system should be factory assembled. Its holding structure, Filter frames and top plenum should be made of AISI 304 stainless steel.
- The filtration ceiling system should have flow equalizer to achieve uniform & constant air distribution over the whole surface .it should also have connection for surgical lamp to be fitted in place of any filter
- The air management system should be designed to achieved the following parameters:  
F.S. 209 classification = 100 (100 particles/ft3)  
Bacteriological class =B (5 CFU/m3)\*  
Particle decontamination kinetics CP =5 min  
Biological decontamination kinetics CB = 5min  
ECG-GMP Annex 1 classification = Class A  
ISO 14644/1 classification = ISO 5
- The positive pressure should be maintained inside the OT to prevent contamination due to air from outside the OT.
- The supplier should provide test certificate for HEPA filter and laminar air flow systems from the original manufactures.

**Exhaust Air Cabinets:**

- Return air exhaust cabinets should be provided in the operation theater.
- The exhaust air cabinets should be openable and cleanable.
- These cabinets should have suction from top as well as from bottom.
- Designed flow rate should not be less than 1000 m3/hr. Distribution of exhaust air volume between fluff strainers top should be 400 m3/hr and bottom 600 m3/hr
- Fixed type exhaust air cabinet (non-openable) type should not be supplied
- The Exhaust air cabinet should be manufactured and supplied by the supplier of wall and ceiling system supplies.
- Specification of materials and aesthetic should match perfectly with the ceiling system.

**5. Automatic Door – Hermetically Sealed Sliding Door**

S. No.	Specification
	<ul style="list-style-type: none"> <li>• This should be a hermetically sealed, single sliding door of 2.1 (H) X 1.8 m(W).</li> <li>• The controller should be capable of being operated by elbow switches/foot switches as well as radar switch (touch less sensor).</li> <li>• The track should be of stainless steel/extruded aluminum and the running surface for the top rollers should be suitably angled to reduce resistance to movement.</li> <li>• The door leaf should be hung by means of hard plastic rollers of high quality with double bearing at the top. Rollers should be provided under the stainless steel/extruded aluminum track to enable smooth and noiseless movement.</li> <li>• Opening and closing of the door should be microprocessor controlled electromechanical movement. Switches for opening and closing should be two, one of proximity type and the other of infrared type.</li> <li>• The door material should be SS powder coated fixed to SS frame (same as the wall panels). Colour should match the interior case should be taken to make the leaf strong and light weight.</li> <li>• One should be able to open and close the door effortlessly incase of failure of automatic mechanism.</li> <li>• Door opening handle should be strong and sturdy. Material should be of SS (gloss finish). Should be provided with high quality cylindrical lock.</li> <li>• Door leaf should have high quality synthetic rubber gasket with long life to ensure hermetic sealing (to maintain air pressure differential). Air tightness 99.99% at a pressure of 100KPa.</li> <li>• The finished floor on either side of the door should be perfectly level (maximum permissible difference ±1mm)</li> <li>• The overall thickness of the finished door should not exceed 60mm. The inner part of the door should not be filled with CFC free polyurethane foam of thickness of 48mm or nearby. (Scaled airtight to prevent further ingress of any microbial organism).</li> <li>• The door and controls should comply IEE regulation and BS 7971 standardization. All motors used should be DC brushless motors with essential isolation from mains.</li> <li>• Door should be with vision window 1.2 m X 0.8 m with double glazed panels and hermetically sealed motorized roller blind inside.</li> <li>• Noise level should not exceed 60 db</li> </ul>

- The starting time after receiving the signal should be adjustable between 0.5 to 20 seconds.
- Speed of closing movement: 20 – 120 mm/Sec.
- Slow Speed: 20 – 220 mm/sec
- Opening Speed: Approx. equal to 800 mm/sec.
- Closing Speed: Approx. equal to 500 mm / Sec
- Door should provide X ray protection as per AERB regulation(Lead equivalent at 100 kV is 0.27mm)
- The complete door assembly should be CE/ ICMED9001/ ICMED13485 or equivalent marked.
- Test certificate for hermetic sealing with door frame (factory test certificate) should be enclosed with the pre dispatch documents to be forwarded.

**6. Single Flap Swing Door:**

S. No.	Specification
	Single Leaf GI powdered coated hinge door of size 900 X 2100 having wall frame with rubber seals, Single door leaf, Door Handles, Door Closer and Hinges

**7. Control Panel:**

S. No.	Specification
	<ul style="list-style-type: none"> <li>• The Touch Screen control panel should be 19” medical grade color TFT/LED panel with 1280x1024 (SXGA) resolution stationed in the sterile field. This control panel should work as the central control panel for the surgical devices and theatre devices (table, lights, HVAC controls, instruction board, communication interfaces- both audio and video etc).</li> <li>• The panel should accommodate all necessary controls for the correct operation and monitoring of the equipment and services within the operating room (OT).</li> <li>• The touch screen should be spring arm mounted, stationed in the visibility line of the surgeon, ideally boom-mounted to carry all communicating cables. The access height should be convenient for the nurse to operate and help/assistant when in need.</li> <li>• The Digital clock and the elapsed time indicator:</li> <li>• The Medical gas alarm should indicate high and low gas pressures for each gas service present in the OR including vacuum. This should be supported by audible alarm also. The panel should have an alarm mute (fault annunciation) facility. The sensors (pressure switches) should be at the nearest isolation valve.</li> <li>• Control for general lighting: ON/OFF and dimming controls organized in groups to provide uniform illumination.</li> <li>• Control of the operating light (major and satellite and camera control (on/off and intensity control) should be provided.</li> <li>• Hand free telephone set with memory should be located at one side.</li> <li>• Temperature and humidity control for the room connected to the AHU. (Adjustable from the panel)</li> <li>• Digital room pressure indicator in cm of H<sub>2</sub>O or equivalent (signal from pressure sensor)</li> <li>• HEPA filter bank differential pressure indicator desirable.</li> <li>• Music control with (MP3 or equivalent player) and selection facility - desirable. (either individual OT or through central music system for the complex from the control room)</li> </ul>

**8. Distribution Box**

S. No.	Specification
	<ul style="list-style-type: none"> <li>• All high voltage equipment should be installed in a separate enclosure.</li> <li>• The remote cabinet should house the operating lamp transformers, mains failure relays, UPS, electrical distribution equipment &amp; circuit protection equipment for all circuits within the operating theatre.</li> <li>• All internal wiring should terminate in connectors with screw &amp; clamp spring</li> <li>• Connections of the clip- on type mounted, on a CE/ / ICMED9001/ ICMED13485 approved rail &amp; labeled with indelible proprietary labels.</li> <li>• Individual fuses or miniature circuit breakers should protect all internal circuits.</li> <li>• Complete schematic drawing with description should be enclosed with the equipment.</li> </ul>

**9. X-Ray View Screens:**

S. No.	Specification
	<ul style="list-style-type: none"> <li>• LED type flat panel X-ray viewing panel should be supplied.</li> <li>• This should comply with relevant electrical safety codes.</li> <li>• This should be a 3 panel viewing screen.</li> <li>• Mounting should be flush with the wall to avoid dust accumulation and growth of organisms between wall and panel.</li> </ul>

- Body should be of extruded aluminum powder coated black with bacteria and disinfectant resistant finish.
- The diffuser on the front panel should be a uniformly lit screen.
- Dimming electronic control should be enclosed at the bottom of the cabinet.
- Proper spring loaded film clip with rollers should be provided to holes the films firmly and to remove the film without scratches.
- Each panel should be able to illuminate films up to 14"x17" size. (Total 3 Panels)

**10. Pressure Relief Dampers:**

S. No.	Specification
	<ul style="list-style-type: none"> <li>• Pressure relief dampers should be provided in each room to prevent contamination of air from clean and dirty areas.</li> <li>• Suitably sized air pressure relief damper should be strategically placed, enabling differential room pressure to be maintained and ensure that when doors are opened between clean and dirty areas.</li> <li>• Counter- weight balancing system should be provided in the PRD to maintain positive pressure inside the operation room.</li> <li>• Air pressure stabilizers should have unique capability of controlling differential pressure to close tolerance. The PRD should remain closed at pressure below the set pressure and should open fully at a pressure only fractionally above the threshold pressure.</li> <li>• The body should be epoxy powder coated as per standard BS colors. High grade electrolyzed steel plate should be used for body and high grade SS 304 stainless steel for blades</li> </ul>

**11. Peripheral Lights with Dimming Control:**

S. No.	Specification
	<ul style="list-style-type: none"> <li>• Peripheral lights and clean room luminaries fitted in the CG frame should be 8 in numbers for each OR. High quality imported surface mounted and recessed luminaries should be with at least 3Nos of 54W fluorescent lamps (TS or equivalent). Should be with highly specular anodized aluminum reflectors and optical antiglare system for individually adjustable light distribution.</li> <li>• Luminaries cover should be made of highly resistant, disinfectant proof laminated safety glass with stylish fine grained surface, glass pane with white coated steel frame.</li> <li>• The reflectors should be of high quality, cleanable and non deteriorating.</li> <li>• The white luminaries body should be made of sheet steel/ perfectly powder coated, supplied ready for connection optionally for individual or series circuit with digital electronic control gear in multilamp technology.</li> <li>• This should be with adjustable multilamp ballast with interface 1-10V, controllable from the panel. Should be suitable for extruded aluminium areas where infrared remote controls are in use.</li> <li>• Recess frames should be gas tight. The fitting should be flush with the ceiling and should be removable from top or bottom. The light fitting should be uniformly and esthetically distributed on the ceiling to provide uniform illumination in the OR. Light should not interfere when green mode endoscopy is performed</li> <li>• Peripheral lighting should be done according to IP65 (international protection rating 65)</li> <li>• Control equipment for the general lighting and the light dimming should be provided in the theatre control panel</li> </ul>

**12. Storage Unit::**

S. No.	Specification
	<ul style="list-style-type: none"> <li>• The storage unit should be made with 1.50 mm thick stainless steel panels.</li> <li>• It should be continuously ventilated by positive air in the room through ventilation holes provided at the bottom and top of opposite sides.</li> <li>• The shelves should be of welded SS mesh of size 3 mm and grid size 30 mm X 30 mm removable for cleaning.</li> <li>• The storage unit should be divided 2 or more parts and each part should have individual glass doors with high quality locking system</li> <li>• The overall size should be approximately 180 cm X 60 cm X45 cm</li> </ul>

**13. Write List Board:**

S. No.	Specification
	<ul style="list-style-type: none"> <li>• A list/Writing Board is provided in each operating theatre.</li> <li>• The writing unit comprises a flush mounted, 1.50mm thick, white laminate board, bonded to a 40mm high density fiberboard sheet for additional rigidity.</li> <li>• The unit can be opened to create a wall mounted writing surface within the operating room.</li> <li>• An additional storage unit is located under the writing unit for the placement of a computer CPU and peripheral items.</li> <li>• The white board is constructed from 1.6mm thick, white laminate board.</li> </ul>

**14. Hatch Box:**

S. No.	Specification
	<ul style="list-style-type: none"> <li>• A Hatch should be provided in each operation theater to remove waste materials from the operation theater to dirty linen area/corridor just adjacent to Operation Theater.</li> <li>• Each Hatch box should be equipped with two doors and the door should be operated electronically.</li> <li>• The Hatch should be designed in such a way that only one door should be opened at one time.</li> <li>• 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</li> <li>• Indicators should be provided on both sides of the OT so that door open / close status can be monitored from both sides.</li> </ul>

**15. Surgical Scrub Station – Two Bay**

S. No.	Specification
	<ul style="list-style-type: none"> <li>• Compact surgical scrub sink should be designed for use in OT complex providing for pre – OT scrub up.( Double sink )</li> <li>• Each fixture should be fabricated from heavy gauge type 304 stainless steel and should be seamless welded construction, polished to a satin finish.</li> <li>• The scrub sink should be provided with a front access panel which should be easily removed for access to the water controlled valve, waste connections, stoppers and strainers.</li> <li>• Hands free operation should include infra red sensors with built-in range of adjustment.</li> <li>• Thermostatic mixing, valve control should be located behind the access panel and maintain constant water temperature.</li> <li>• User defined setting of 1 to 3 should be available. This timing should be adjustable to meet individual application requirements.</li> <li>• Provided with infrared sensors, thermostatic control taps with fail safe temperature controls.</li> <li>• All units should have reduced anti- splash fronts.</li> <li>• Knee operated switch should be there.</li> </ul>

**16. LED OT LIGHT WITH HD CAMERA SYSTEM:**

S. No.	Specification																		
	<p><b><u>Description:</u></b> Dual Dome LED Surgical Lighting System with one dedicated Spring-Arm Suspension for Progressive Scan HD Flat Panel with an Integrated In-Light Camera System.</p> <p><b><u>OT Light</u></b></p> <p>Operating Room Surgical Lighting System should provide an ideal combination of brightness, maneuverability, and shadow resolution without sacrificing color accuracy through a consistent LED technology with a unique faceted reflector design technology.</p> <table style="width: 100%; border: none;"> <tr> <td style="padding-left: 40px;">Number of Light heads :</td> <td style="padding-left: 40px;">:</td> <td>Two per suspension</td> </tr> <tr> <td style="padding-left: 40px;">Number of LEDs</td> <td style="padding-left: 40px;">:</td> <td>Mention the no of LED Lamp</td> </tr> <tr> <td style="padding-left: 40px;">Color Temperature</td> <td style="padding-left: 40px;">:</td> <td>4000 - 5000 K</td> </tr> <tr> <td style="padding-left: 40px;">Field Size Diameter Depth</td> <td style="padding-left: 40px;">:</td> <td>6 inch – 12 inch</td> </tr> <tr> <td style="padding-left: 40px;">Depth of Field</td> <td style="padding-left: 40px;">:</td> <td>30 – 35 inch</td> </tr> <tr> <td style="padding-left: 40px;">Illumination Level</td> <td style="padding-left: 40px;">:</td> <td>minimum 160,000 Lux each</td> </tr> </table>	Number of Light heads :	:	Two per suspension	Number of LEDs	:	Mention the no of LED Lamp	Color Temperature	:	4000 - 5000 K	Field Size Diameter Depth	:	6 inch – 12 inch	Depth of Field	:	30 – 35 inch	Illumination Level	:	minimum 160,000 Lux each
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Depth of Field	:	30 – 35 inch																	
Illumination Level	:	minimum 160,000 Lux each																	

Controls	:	Wall Control Touch Panel
Rotation	:	360 degrees
Vertical Adjustment Range	:	+ 20 inch – 25 inch
Sterilizable Handle	:	Yes
Lighthouse Diameter	:	20 – 30 inch
Mounting Type	:	Ceiling
Supply Voltage	:	230 VAC 50 Hz
Bulb Type	:	LED
Dimming Range	:	30% - 100%
Operating/Storage Humidity	:	10 – 95%
Life of Light Source	:	> 30,000 Hrs.

**Camera System**

**Description:** Integrated In-Light Camera System should be integrated at the centre of one of the domes of this lighting system in order to capture images & video sequences of the open cases.

Such a camera should have the following specifications:

Signal to Noise Ratio (S/N Ratio)	:	<50 dB.
Minimum Illumination	:	<3 lx
Optical Zoom	:	25 – 30x.
Digital Zoom	:	12-15X
Power Supply	:	Through Light / max. 12W.
Relative Humidity	:	<90%.
Video Output	:	S-Video & Composite Video
White Balance & Gain	:	Automatic/Manual

Such Surgical Light System Should be compliant with relevant European (CE) / US FDA standards/ ICMED9001/ ICMED13485.

Such Light and Integrated Camera should have a control through Touch Panel of the control equipment placed inside the operating room at documentation station / nurse works station.

**Flat Panel Monitor**

Should be 24” High Definition Progressive Scan Flat-panel Monitors with ceiling mounted spring arm suspension to support high-definition/HDTV progressive Scan images and should be able to support and display DVI/HDTV, RGBHV, S-Video, Composite video signals.

The flat Panel suspension should be ready with the cables for integration of High Definition Digital (DVI/HDTV), RGBHV (High Resolution), SVHS (S-Video), Composite video signals to travel from the various sources of video like endoscopic camera, room camera, in light camera, high definition flat panel monitors, while assuring native resolution / signal.

Such Monitor should at least meet the following technical criteria:

Resolution	:	1600 dots x 1200 dots, Progressive Scan
Display Colors	:	16 Million Colors
Inputs	:	DVI, RGBHV, S-Video, Composite Video
Synchronization	:	2.5 – 5.0 Vpp separated sync
Response time	:	<25ms
Travel	:	330° - 340°
Forward Tilt	:	30° - 40°
Backward Tilt	:	45° - 50°
Cable Kit for Integration	:	DVI, Fiber Optic, RGBHV, S-Video, Composite

**17. Single Arm Anesthesia Pendant:**

S. No.	Specification
	<p><b>1. Installation base</b> Single installation base for swivel arms</p> <p><b>2. Suspension arm</b></p> <ol style="list-style-type: none"> <li>The single arm designed with motorized height adjustable should be 1000 mm</li> <li>The vertical movement of the motorized arm should be at least 700 mm</li> <li>The load capabilities of each pendant should be at least 180 kg</li> <li>The allowable rotation angle of each axis should not be less than 340 degrees.</li> <li>Dual break system for maximum safety combines the advantages of both pneumatic and friction brakes. The upper and intermediate joint should be equipped with electro-pneumatic break to prevent unintentional movement or disconnection</li> <li>In the event of a compressed air system failure, pneumatic break system should hold position until the user chooses to release it. At this point, the friction brake takes over, allowing quick but controlled drift-free repositioning of equipment as required.</li> </ol> <p><b>3. Supply distribution</b></p> <ol style="list-style-type: none"> <li>The allowable rotation angle of each axis should not be less than 340 degrees</li> <li>800 mm column distribution for the gas and electrical outlet</li> <li>Separated cavity design for the gas (2 cavities on both sides) and electrical outlet (1 cavity in the middle) for maximum safety</li> <li>Supply distribution should consist of, but not limited to the following outlets:               <ol style="list-style-type: none"> <li>Vacuum outlet x 2 No. (BS Standard)</li> <li>Medical air outlet x 2 No. (BS Standard)</li> <li>Oxygen outlet x 2 No. (BS Standard)</li> <li>Nitrous Oxide outlet x 2 No. (BS Standard)</li> <li>Electrical outlet (Indian Standard) x 8 Nos.</li> <li>RJ45 x 1 No.</li> </ol> </li> </ol> <p><b>4. Accessories</b> Supply distribution should consist of, but not limited to the following accessories:</p> <ol style="list-style-type: none"> <li>Shelf (with side rail), load capacity 80 Kg – 450 mm (W) x 500 mm (D) x 2 No</li> <li>Anesthesia machine holder installed on the rail</li> <li>Infusion pole in length 1000 mm, height adjustable x 1 No.</li> <li>Extension arm 300 mm for the infusion pole x 1 No.</li> <li>Handle with control button for motor and pneumatic break</li> </ol> <p><b>5. Certification</b> Should be European CE / US FDA / ICMED9001/ ICMED13485 Certified.</p> <p>6. Pendant should have eight 5A/15A combined electrical socket. Electrical socket should be of reputed make. One electrical socket should be connected with central UPS and should of different colors for easy identification.</p>

**18. Double Arm Surgeon Pendant:**

S. No.	Specification
	<p><b>Installation base</b> Single installation base for swivel arms</p> <p><b>Suspension arm</b></p> <ol style="list-style-type: none"> <li>The single arm designed with motorized height adjustable should be 1000 mm</li> <li>The vertical movement of the motorized arm should be at least 700 mm</li> <li>The load capabilities of each pendant should be at least 180 kg</li> <li>The allowable rotation angle of each axis should not be less than 340 degrees.</li> <li>Dual break system for maximum safety combines the advantages of both pneumatic and friction brakes. The upper and intermediate joint should be equipped with electro-pneumatic break to prevent unintentional movement or disconnection</li> <li>In the event of a compressed air system failure, pneumatic break system should hold position until the user chooses to release it. At this point, the friction brake takes over, allowing quick but controlled drift-free repositioning of equipment as required.</li> </ol> <p><b>Supply distribution</b></p>

	<p>a. The allowable rotation angle of each axis should not be less than 340 degrees</p> <p>b. 800 mm column distribution for the gas and electrical outlet</p> <p>c. Separated cavity design for the gas (2 cavities on both sides) and electrical outlet (1 cavity in the middle) for maximum safety</p> <p>d. Supply distribution should consist of, but not limited to the following outlets:</p> <ol style="list-style-type: none"> <li>i. Vacuum outlet x 2 No. (BS Standard)</li> <li>ii. Medical air outlet x 2 No. (BS Standard)</li> <li>iii. Oxygen outlet x 2 No. (BS Standard)</li> <li>iv. Nitrous Oxide outlet x 2 No. (BS Standard)</li> <li>v. Electrical outlet (Indian Standard) x 8 Nos.</li> <li>vi. RJ45 x 1 No.</li> </ol> <p><b>Accessories</b> Supply distribution should consist of, but not limited to the following accessories:</p> <ol style="list-style-type: none"> <li>a. Shelf (with side rail), load capacity 80 Kg – 450 mm (W) x 500 mm (D) x 2 No</li> <li>b. Anesthesia machine holder installed on the rail</li> <li>c. Infusion pole in length 1000 mm, height adjustable x 1 No.</li> <li>d. Extension arm 300 mm for the infusion pole x 1 No.</li> <li>e. Handle with control button for motor and pneumatic break</li> </ol> <p><b>Certification</b> Should be European CE / US FDA/ ICMED9001/ ICMED13485 Certified.</p> <p>Pendant should have eight 5A/15A combined electrical socket. Electrical socket should be of reputed make. One electrical socket should be connected with central UPS and should of different colors for easy identification.</p>
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### 19. Medical Gas Pipeline System:

S. No.	Specification
	<ul style="list-style-type: none"> <li>• The bidder should ensure that all works carried out are to the recommendation made in the Department of Health and Social Security's Health Technical Memorandum number 2022 (HTM 2022) &amp; C11 and any other appropriate British Standards.</li> <li>• Bidder should provide Oxygen, Air, Vacuum and Nitrous Oxide supply to Operation Theatres from the existing manifold.</li> <li>• Bidder shall be responsible for installation and commissioning of Area Zone Service Unit, Warning and Alarm Unit and Terminal Unit etc.</li> <li>• The line valve should be brass 25 mm ball valve with PTFE sealthes/seats operated by a quarter turn handle with a pin to prevent over travel in both directions. The ball valve shall be connected by HTM 2022 &amp; C11 stub pipes to the distribution system by either top, bottom, side or rear entry pipes.</li> <li>• The assembly should be housed in a valve box which shall be capable of both surface or concealed mounting incorporate a hinged lid which opens through 180 degree, to provide maximum access. The hinged door shall be fitted with a glass panel to enable a visual check on the line valve selected position and for access in an emergency.</li> <li>• The hinged door should normally be locked closed and area zone valves installed adjacent to each other shall be operated by different key lock combinations.</li> <li>• Terminal units should be gas specific and only accept the correct Medical gas probe. Gas specific components shall be pin indexed to ensure that a correct gas specific assembly is accepted.</li> <li>• Terminal units should be designed to allow easy, accurate and low cost installation, providing a variable angle for pipeline inlet and to accommodate variable plaster depth up to maximum of 16 mm.</li> <li>• Terminal units should incorporate a replaceable capsule assembly, enabling all working parts subject to wear through usage to be replaced as a factory assembled unit thereby reducing maintenance time.</li> <li>• Each terminal unit should be identified by the appropriate recognized name or symbol, colour, coding and shape as detailed below as in HTM 2022 &amp; C11. These markings shall be permanent and be an integral part of the terminal unit.</li> <li>• The medical gas alarm system shall be an advanced/ multiplexing data transmission system which fully satisfies the principles of HTM 2022 and conforms in all respects to the National Health Service Model Engineering Specification C11</li> <li>• Pipe work materials shall be manufactured by a licensee of the Bs 5750 quality assurance certification scheme and all pipes and fittings are marked with the BSI kitemark</li> <li>• Pipes should be phosphorous de-oxidised non-arsenical copper to BS 6017 grade <ul style="list-style-type: none"> <li>○ C106. Pipe sizes and manufacture should be according half hard to BS 2671 part 1</li> <li>○ Table x In addition to the marking requirements of BS 2871 pipes should be marked</li> <li>○ DEG to represent compliance with Medical degreasing specification.</li> </ul> </li> <li>• Fittings should be phosphorous de-oxidised non-arsenical copper to BS 6017 grade C 106, of sizes and manufacture to BS 864 part 2 or equivalent</li> <li>• Copper to copper joints made on-site, utilize a copper phosphorous brazing alloy type CP1 or CP4 to BS 1845 and an inert gas shield and no flux.</li> <li>• Copper to brass or gunmetal joints made off site shall utilise a silver breezing material type AG18 to BS</li> </ul>



	1845 with a flux and the joint is subsequently cleared and degreased for oxygen services <ul style="list-style-type: none"> <li>Bidder should mention price for Medical Gas line installation separately with detailed BOQ.</li> </ul>
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**20. Isolation Power Transformer System:**

S. No.	Specification
	<b>Isolation Transformer is to be installed to cater total power load of the O.T.</b>

**21. Electrical System:**

S. No.	Specification
	<ul style="list-style-type: none"> <li>Power distribution within "the departments should be "provided' from distribution boards located local to each theatre. Sub mains power to these panels should be by the general electrical contractor. From these panels all distribution services within the departments should be run. Complete schematics should be supplied along with the offer.</li> <li>Earthed equipotent bonding of all exposed metalwork should be provided.</li> <li>Power sockets within the Operating Theatres ancillary areas should be matched to the rest of the hospital.</li> <li>Light fittings within the clinical areas should be recessed fluorescent type, with high frequency tubes and control gear.</li> <li>Fittings should be sealed In accordance with the standard IP54.</li> <li>All equipment should be fully and permanently labelled to identify and describe the function, operation and voltage of the apparatus concerned. Throughout and upon completion of the electrical installation, tests in accordance with relevant sections of the local wiring regulations should be carried out and the results recorded.</li> </ul> <p><b>FIRE EXTINGUISHERS</b></p> <p>Bidder should provide suitable fire fighting mechanism as per international standards Bidder should provide suitable fire extinguishers.</p> <p><b>On line UPS 10 KVA with Battery Back Up of 1 Hour:</b></p> <p>The UPS shall be a solid-state single phase UPS system designed to provide regulated and conditioned sinusoidal power to both linear and non-linear type loads. The UPS shall provide uninterruptible power during all modes of operation. There shall be no interruption of power to the critical load when the UPS transfers to and from battery operation. POWER CONNECTIONS: The UPS shall be hard wired input and output.</p>

**22. HVAC System for Modular OT**

Sl. No.	Specifications
1	<b>AHU - AIR HANDLING UNIT (DOUBLE SKIN TYPE)</b>
1a	<b>Type:</b>
	The air-handling units are of double skin construction, draw-thru type comprising of various sections such as Pre-filter section, coil section. Units must be able to work satisfactorily in exposed atmospheric conditions. The unit should have tubular heater of 3 KW range with SS Jacket construction.
1b	<b>Casing:</b>
	Double skinned panels are fabricated with anodized extruded aluminium extrusion frame work bolted together with sandwich panel having powder coated 0.70mm sheet for outer skin and plain GP 0.63 mm sheet for inner skin. 43 mm thick PUF insulation material is injected between the two panels (with U value no greater than 0. 85W / m <sup>2</sup> / K)
	The entire frame duly painted is mounted on sheet steel channel based. The panels are sealed to the framework by heavy-duty 'O' ring gaskets held captive in the framed extrusion. All panels are detachable or hinged. Hinges are made of die cast aluminium with stainless steel pivots, handles are made of hard nylon and be operational from both inside and outside of the unit. All fixing and gaskets shall be concealed.
1c	<b>Motor and drive:</b>
	Fan motors are highly efficient and work on 440 ± 10% volts, 50 cycles, three phase with explosion proof type with class F installation, with IP 55 protection. Motors are easily designed for quiet operation and motor speed does not

	exceed 1440 rpm. Drive to fan is provided through belt-drive arrangement. Belts are of the oil-resistant type.
1d	<b>Fan:</b>
	Fans are of centrifugal type, conforming to AMCA 210 and are double width, double inlet with forward-inclined airfoil blades, specially designed and suitable for the required operating pressure. Fan casing are made from galvanized steel sheet. Fan shaft is grounded C 40 carbon steel and supported in self-aligning plumber block operating less than 75% of first critical speed, grease lubricated bearings.
1e	<b>Cooling Units:</b>
	DX coils have 12.5 to 15mm dia tubes minimum 24G thick with sine wave aluminium fins firmly bonded to copper tubes assembled in zinc coated steel frame. Face and surfaces areas are such as to ensure rated capacity from each unit and such that the air velocity across the coil does not exceed 150 meters per minutes. Each coil is factory tested at 21-kg/M <sup>2</sup> air pressures under water. Tube is Hydraulically / mechanically expanded for minimum thermal contact resistant with fins. Fin spacing is 4-5 fins per cm.
1f	<b>Filters:</b>
	Each unit is provided with a factory assembled section containing washable synthetic type air filters having anodized aluminium frame. The media is supported with HDP mesh. Filter banks are easily accessible and designed for easy withdrawal and renewal of filter cells. Filter banks face velocities do not exceed 100 m/minutes. Differential pressure switch is to be fixed across the filter as part of AHU's system.
2	<b>Ducting:</b>
	The duct supply system should be free of construction debris. Ducting shall be made of Aluminium with curves & bends where indicated for easy flow of and ensured to be air tight by applying silicon sealant after fabrication. Hangers shall be provided to ducts & shall be suspended by means of G.I. coated rods & these shall not be more than 2.5mtrs apart. Thermal insulation with 9mm XPE for supply & return air ducts. Joints will be lapped with Nitrile rubber tape for better insulation.
3	<b>CONDENSING UNITS</b>
3a	<b>Compressor:</b>
	The compressor shall be screw, scroll / reciprocating type, hermetic, in accordance with with ARI 520, direct driven with capacity control arrangement. The compressor casing shall be of cast iron and designed for 450 psig or higher. The compressor shall incorporate rolling element bearing to support rotating assembly. the rotor shall be higher steel alloy.
	Refrigerant circuit components shall include flexible pipe connectors, hot gas muffler, high side pressure switch, liquid line shut-off valves, suction and discharge shut-off valves, filter drier, moisture - indicating sight glass, electronic or thermostatic expansion valve (EXV), heavy duty pressure gauge with cocks to monitor suction, discharge and oil pressure and complete operating of refrigerant and compressor oil.
3b	<b>Motor:</b>
	Compressor motor shall be Hermetic / semi-hermetic direct drive, squirrel cage, two pole, induction type, refrigerant cooled motor suitable for 415 V/50Hz. 3 Phase supply. Hot gas motor cooling is not acceptable.
3c	<b>Condenser:</b>
	Condenser shall be Air Cooled type. Tubing shall be copper, Aluminium fins high efficiency type. Tubes shall be nominal 19mm. Outer diameter and thickness shall not be less than 22 g. and rolled into tube sheets and shall be individually replaceable and also tubes shall be coated with corrosion resistant coating.
	Condenser fans shall be direct coupled to motor and protected against overloading and with minimum 1.15 service factor.
4.	<b>Suitable Servo Voltage Stabilizer / Automatic Voltage Stabilizer</b> of required capacity is to be provided capable to take entire load of HVAC System.

### 23. ULTRA VIOLET LIGHTS

- 30 watts Philips or equivalent UV tube lights fixed to the frame with reflector.
- SS frames shall be made of .8mm SS 304, recess mounting type with hour meter.
- The unit shall be easy to disinfect and maintain.

### 24. TOUCH SCREEN MONITORS WITH DESKTOP

- One 24" (approx.) medical grade Touch Screen shall be mounted on a Monitor Arm supplied with the O.T. Lights and shall be located within the sterile field for the doctor's control or his assistant. This monitor must be Full HD "Widescreen" with resolution of approx. 1920 x 1920.

- One 24" (approx.) medical grade Touch Screen Desktop Mountable shall be located on the Nurse works Station outside the sterile zone for the technician / sister. Higher configuration Desk Top is to be provided.
- Both the Touch Screens should be able to mimic the actual device panel by displaying an identical image of the device panel. This is necessary for the ease of control and to ensure that anybody familiar with the key functions on the devices will also be able to operate the device by using the touch screen.

#### Documentation and Data Management:

Image capturing, video recording and data archiving of any procedures should be made available and controlled via the Touch Screen mounted on the monitor arm and simultaneously from the desktop (higher configuration) mounted on Touch Screen located in the nurse workstation positioned outside the sterile field.

The documentation system should have pre-setting to facilitate a more rapid data entry with the following features:-

- Automatic creation of standard reports.
- Digital storage and advanced editing of still images, video sequences and audio files.
- Digital alternative to video printer, video recorder and dictating machine.
- Sterile, ergonomic operation via touch screen, camera head buttons and / or footswitch.
- Network storage should be possible.

#### 25. Anesthetic Gas Scavenging Disposal System (AGSS)

Anesthetic Gas Scavenging System (AGSS) plants are to be installed to provide a safer working environment for the medical personnel by the removal of the waste gases that are produced during anesthesia and from the surrounding environment.

AGSS plants are to be installed as simplex or duplex units comprising of die cast aluminum side channel blowers complete with electrical controls, pressure sensor, relief valve and drain flask, all pre-piped, pre-wired and factory tested. The duplex plant control panel should incorporate a duty pump selector, vacuum gauge and indicators to identify the plant status. The standby pump is to be activated automatically upon high demand or the failure of the duty pump. Duplex units should incorporate non-return valves to enable the maintenance of one pump whilst the other pump is in service. Pumps are available to suit single phase or three phase electrical suppliers. Remote switches are available to enable control of the AGSS plant from within the department served and to indicate the status of the plant.

#### Important Note:

1. Interested Bidders may inspect the proposed hospital buildings before submission of their proposal to decide requirement at their own cost.
2. Before submitting the proposal, the bidder will be deemed to have satisfied themselves by actual inspection of the site and locality of the works, that all conditions liable to be encountered during the execution of the works are taken into account and that the rates quoted in the proposal are adequate and all inclusive to accord with the provisions of contract for the completion of works to the entire satisfaction of the IGIMS, Patna.
3. Area of Modular O. T. to be commissioned:

Sl. No.	Area	Qty.	Size
1	3 <sup>rd</sup> Floor, SCI Building (North Side)	02 nos.	a) 6100 mm X 6100 mm b) 6100 mm X 6100 mm
2	3 <sup>rd</sup> Floor, SCI Building (South Side)	02 nos.	a) 5270 mm X 5830 mm b) 5200 mm X 5820 mm
3	1 <sup>st</sup> Floor, SCI Building	01 no.	a) 5750 mm X 5730 mm



Director,  
I.G.I.M.S. – Patna.