अखिल भारतीय आयुर्विज्ञान संस्थान, रायपुर (छत्तीसगढ़)

All India Institute of Medical Sciences, Raipur

खंडन

यह निविदा अखिल भारतीय आयुर्विज्ञान संस्थान, रायपुर (छ.ग.) के लिये बोलीदाताओं से प्रस्ताव नहीं बल्की प्रस्ताव प्राप्त करने का निमंत्रण है। संविदात्मक दायित्व तब तक नहीं होगा जब तक औपचारिक अनुबंध पर हस्ताक्षर नहीं किया जाता और चयनित बोलीदाताओं के साथ एम्स रायपुर के विविवत अधिकृत अधिकारियों के द्वारा निस्पादित किया गया हो।

DISCLAIMER

This tender is not an offer by the All India Institute of Medical Sciences, Raipur, but an invitation to receive offer from bidders. No contractual obligation whatsoever shall arise from this tender process unless and until a formal contract/MoU is signed and executed by duly authorised officers of AIIMS, Raipur with the selected bidder.

Notice Inviting Tender
From
Central PSUs
for "Selection of a Project Management Consultant (PMC) for Setting of a Dedicated Burn Unit with enhanced Intensive Care on Turn-Key basis"
At
All India Institute of Medical Sciences, Raipur

CRITICAL DATE SHEET

Bid Submission Start Date & Time	11.12.2025 at 18:00 PM
Pre bid meeting Date & Time	19.12.2025 at 11:00 AM
Pre bid meeting Venue	Central Stores, AIIMS Raipur
Bid Submission End Date	12.01.2026 at 15:00 PM
Bid Opening Date	13.01.2026 at 11:00 AM

INFORMATION AND GENERAL INSTRUCTIONS FOR BIDDERS

1. The Executive Director, AIIMS Raipur invites NIT in two bid system (technical bid + price bid) from Central Public Sector Undertakings for "Selection of a Project Management Consultant (PMC) for Setting of a Dedicated Burn Unit with enhanced Intensive Care on Turn-Key basis"
2. The PMC shall be required to quote rate as **percentage (%) only, having base value of Total Estimated Cost.**
3. The Total estimated cost (All inclusive) of the project is **Rs. 8,04,24,087.00 (Rupees Eight Crore Four Lakh Twenty Four Thousand and Eighty Seven only),** which shall be considered as the base value for the Percentage quoted. The sum arrived by adding/reducing the amount of the Percentage of the Total Estimated Cost and the Total estimated cost shall be considered as the **Total Project Cost (All inclusive)**. The quote having the Least Total Project Cost (all inclusive) shall be declared as L1 (Lowest One) bidder.
4. Completion Time is 12 Months from the 10th day of the award of the work to PMC.
5. The successful bidders have to execute a contract on Indian non judicial stamp paper of Rs.100/- (Rupees one hundred only) within seven (07) days from the date of award of this tender in his favour.
6. The bid once submitted shall be firm and final and no request for any variation in quoted Percentage (%) and / withdrawal of tender on any ground by bidders shall be entertained.
7. The intending bidder must read the terms and conditions of this NIT carefully. He/she should only submit his bid if he/she considers himself/herself eligible and in possession of all the documents required.
8. This information and instructions for bidders posted on website shall form part of bid document.
9. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website www. aiimsraipur.edu.in or **https://eprocure.gov.in**
10. All the bidder(s) should upload eligibility documents in the form of PDF only.
11. Bidder must ensure to quote rate (%) in the prescribed columns meant for quoting rate.
12. To ensure due performance of the contract, performance security [or Performance Bank Guarantee (PBG)] shall be obtained from the successful bidder awarded the contract. Performance security should be for an amount of **five (5) per cent (%)** of the Total Project Cost.
13. Only Authorized signatory will be permitted to sign any type of documents.
14. The soft copies of documents are to be uploaded by PMC on CPP Portal (https://eprocure.gov.in). If uploaded scanned documents/tender form are not downloaded successfully, due to any technical error/corrupt files then AIIMS Raipur will not be liable.

SECTION I

Introduction and Selection process

1.0 Introduction

Burn injuries are a major health problem and yet not addressed properly in many set ups dealing with patient care. The reason being the lack of a specialized Burn unit to manage these critically ill patients with multi-organ dysfunctions with high mortality and morbidity rate which require multidisciplinary approach in an intensive care set up with trained dedicated technical manpower.

A dedicated Burn Injury Unit in any tertiary hospital care is a state of art care center which has been embodied in a principled way by the Govt. of India directives, to bring to relief to thousands of burn victims and more importantly rehabilitate the patients to join the main stream.

Thus, Burn units are classified into tertiary care only. For management of burn patients, a tertiary care set up/referral hospital needs to be equipped with dedicated burn ICU, Operation theatre, facility for hydrotherapy, physiotherapy.

There are very few established burn units/centers in institutes of national importance like AIIMS, Bhubaneswar, and one under construction at AIIMS, Patna. But a lot of patients from Chhattisgarh, nearby Madhya Pradesh are not able to secure these services due to distance and time taken to travel and transport patients to a tertiary unit.

As per the guideline by National Program for Prevention, Management and Rehabilitation of Burn Injuries (NPPMBI), an initiative of DGHS, a hospital should have a dedicated Burn Unit with at least 12 beds, including 4 ICU beds, one OT, in the premises of Burn unit. In order to prevent infection, there should be a clean room standard air environment with positive air supply; the physical structure of walls and ceiling should prevent bacterial and fungal growth and physical hermitically barrier should be in place. . The proposed burn unit suggested by NPPMBI guideline requires approximately 725 Sq. meters including 50 Sq. meter operation theatre.

With the support of the administration, we have been allotted a standard existing 2B1 ward for management of Burn patients. Since we have a space constraint in the ward which is approximately 500 sq meter and some for ancillary activity area such as utilities, we are proposing changes which are very much essential for a burn unit for optimized patient care. The proposed burn ward will have a male ward, a female/pediatric ward, (4 beds X 2 wards) hydrotherapy unit, ICU (4 Beds), a step down HDU(2 BED), nursing and monitoring station, and a full-fledged modular OT , a total of 14 beds as per the layout attached with this proposal. This is to be noted that the physiotherapy unit and a skin bank are not being incorporated in the proposal due to space constraint in the ward as no adjacent area is available to propose for the

same.

The outcome of this proposal will be a burn unit with enhanced facilities of intensive care to burn victims. The equipment details with quantity, justification and financial implications are attached.

A BURN UNIT

This includes at the initial incidence of injury, to bring succour to the sufferings to the subject, provide cutting edge treatment with modern technical support and treat in a zero bacterial and fungal environment as they are the two most deadly pathogen families to be dealt with.

In a government funded institute the cost per patient can be bought down (during the treatment) to a very minimal limits if there stands a facility which has an environment which drastically reduces the nosocomial infection rate.

This exercise here is aimed at creating a facility which brings to fore the ease and dedicated environment to patients and more importantly to the care givers in an integrated manner.

The normal way of creating a hospital ICU set up or otherwise is redundant here due to the call of creating a dedicated double barrier nursing facility and SOP's which have to be in place and hence it needs to be categorized as a special constructed facility with certain norms and expenditure not specified in the schedule of rates as prevalent in India

The existing ward has standard tiled wall, with false ceiling, and tiled floor which has crevices and edges which is prime space for microbial growth which cannot be prevented even with very intense hygiene standards. The HVAC, layout, fire fighting, communication system and Medical Gas supply system is as per existing hospital ward norms. This set up woefully inadequate to cater to a specialized unit such as a Burn unit.

Hence, we propose a comprehensive re-modeling of the allocated ward as per the guidelines of NPPMBI and DGHS. This state of art facility shall have a long shelf life and will be able to incorporate new cutting-edge treatment protocols in the future. This project will be more in nature of a semi-Greenfield construction with incorporation of existing civil structure and HVAC albeit with necessary modifications shall be put to more efficient and required use. The super structure of the building shall not be in way being altered during this activity and care has been taken to use existing material/ sub systems at ward site to their full potentia.

1.1 Selection Process

It is proposed to engage a project management consultant (PMC) to manage all the activities involved in the project like planning, construction and commissioning of the State of Art Burn Unit. The scope of work of PMC includes Civil works including MOT, PU Flooring, Furniture & Furnishings; Electrical works including clean room lighting fixtures; Construction of Toilets, supply & fitment of CCTV, MGPS, HVAC System, Fire Fighting system, air conditioning system, Nursing call station, Plumbing works, and supply, integration, Installation & commissioning of various equipments with defined warranty period & freezing of CMC rates for defined period & consumables, as applicable.

AIIMS Raipur is looking for a PMC having experience and knowledge in similar projects like creation of modular Operation Theatres, ICU facilities, and hospital infrastructure as per the guidelines of NPPMBI and DGHS.

The engagement / selection of PMC will be done out of **Central Public Sector Undertakings**. It is expected that PMC should have architects, engineers, specialists with relevant procurement expertise.

PMC will, prepare various design, execute, superintend and perform all duties, consequentially or incidentally required to create this State of Art Burn Unit.

1.2 Selection Process of Project Management Consultant:

1.2.1 Technical Eligibility Criteria

The participating Central PSUs, who fulfill the following tabulated eligibility criteria shall be considered for financial evaluation:-

S. No.	Criteria	Documents required
1.	The bidder must be a Central Public Sector Undertaking.	Proof towards its incorporation by Government
2.	The bidder should have experience of executing similar works **("completed"/"ongoing")** as PMC/Execution Agency in Government / Govt. agencies/Govt. autonomous bodies/ Govt. Institute during the last Ten years from the last day of the month previous to the one in which this NIT published, i) At least one similar work of value not less than Rs. 06 Crore or ii) Two similar works of value not less than Rs. 4 Crore each, or	Documentary evidence towards completed/ ongoing similar works and completion certificate of the client towards completed works.

	iii) Three similar works of value not less than Rs. 3 Crore each. "**Similar work**" shall mean "Any project for creation of:- A Modular Operation Theater **and** at least 10 bedded ICU **Or** A Modular Operation Theater **and** a hospital ward of at least 7000 Sq. Ft. area."	
3.	Any bidder, who has been either of the following, will not be eligible to participate in this bid:- (i) barred/blacklisted/put on Holiday in preceding 05 calendar years or (ii) contract discontinued / terminated / scope curtailed due to non-performance /restricted due to non-performance / unsatisfactory performance of assigned projects by any State Government (SG) or Union Territory (UT) or Government of India (GoI), or any of the agencies of SG/UT/GoI in preceding 05 calendar years or (iii) having pending investigations in any assigned projects,	Enclose the notarized certificate in this regard. (Please see **Annexure 5**)

1.2.2 The PMC shall be required to quote **Percentage (%) in the Price Bid.** The sum arrived by adding/reducing the amount of the Percentage of the Total Estimated Cost and the Total estimated cost shall be considered as the Total Project Cost (All inclusive like GST, Cost of all works & equipments, Consultancy charges and the responsibilities of PMC as per scope of work). The Price Bid of the bidder having the Least Total Project Cost shall be awarded the Project as PMC. The validity period of the bid shall be **90 days** from the date of opening of the technical bid.

1.2.3. The Selection Committee may choose to visit the client's site involving PMC declared services (Completed/On-going) to make the above assessment. All prospective PMCs should do site visit **(Ward 2B1, Burn & Plastic Surgery ward, AIIMS Raipur)** before hand at their convenience, if possible, before Pre-bid meeting itself. Any request for site visit on the day of presentation shall not be desirable.

1.2.4 The Tender Evaluation Committee (TEC) Report shall be notified to all participating PMCs through e-mail. **Three (03) working days** (Except Sunday/Public Holiday) time shall be given to all participants for raising any representation. In case of any representation, the decision of TEC/Competent Authority of AIIMS Raipur shall be final and binding on all the bidders. No representation shall be entertained after expiry of 03 working days. Subsequently, Institute shall upload the technical bid result on CPPP, followed by opening of Finance Bids.

1.2.5. Award of Work

The work of Project management consultancy services will be awarded as per recommendation of the TEC based on the following:

(i) The Price Bid of the bidder having the **Least Total Project Cost** shall be awarded the Project as Project Management Consultant (PMC) of AIIMS, Raipur for this particular project.

(ii) In case of tie, PMC having the highest Cumulative value **(Only Completed)** of similar projects **completed** (each project not less than Rs. 3 Crores - Inclusive of GST) during last 10 years from the last day of the month previous to the one in which this NIT published shall be awarded the tender as PMC. Documentary evidences for the same shall be asked from all such bidders at this stage.

(iii) The selection above does not automatically confer any right whatsoever on any PSU/Government Organisation for award of work as described in the scope of services.

SECTION – II

Technical details

(This section covers Technical Specification of CIVIL, Electrical, HVAC, MGPS, MOT and a list of equipments for which specification is appended at Section VI)

Electrical, Fire & IT Scope of Work

1) Common dismantling & removing Work at Department
   - i) Dismantling of Ceiling fan.
   - ii) Dismantling of bed head light and ceiling light.
   - iii) Dismantling of nurses call system.
   - iv) Dismantling of existing switch socket & metal box.
   - v) Removing of Existing Light & Power Circuit.
   - vi) Dismantling of Fire accessories.
   - vii) Dismantling of LAN circuit & accessories etc.

2) General Requirement
   - i) Installation of MCB, RCCB, MCCB, DB & Floor Panel etc.
   - ii) Sub main, distribution & Circuit wiring etc.
   - iii) Installation of Dedicated Earthling.
   - iv) Installation of Fire accessories.
   - v) Installation of LAN circuit & accessories etc.
   - vi) Installation of Wireless Nurses Call System (14Bed).
   - vii) After Completion delivery Shop & As built drawing (Color 3Set).

3) Hydrotherapy Area
   - i) Provision of antibacterial electrical switch socket, along with GI Box.
   - ii) Provision of electrical wiring & additional electrical points.
   - iii) Replacement of existing conventional light with LED light for better and required illumination.
   - iv) 12 Nos. Switch Socket at each Bed.
   - v) Provision of BLDC Ceiling Fan.
   - vi) Provision of LAN circuit & accessories etc.

4) Male Ward (04 Bed)
   - i) Provision of antibacterial electrical switch socket, along with GI Box.
   - ii) Provision of electrical wiring & additional electrical points.
   - iii) Replacement of existing conventional light with LED light for better and required illumination.
   - iv) 12 Nos. Switch Socket at each Bed.
   - v) Provision of BLDC Ceiling Fan.
   - vi) Provision of LAN circuit & accessories etc.

5) Female Ward (04 Bed)
   - i) Provision of antibacterial electrical switch socket, along with GI Box.
   - ii) Provision of electrical wiring & additional electrical points.
   - iii) Replacement of existing conventional light with LED light for better and required illumination.
   - iv) 12 Nos Switch Socket at each Bed.
   - v) Provision of BLDC Ceiling Fan.
   - vi) Provision of LAN circuit & accessories etc.

6) Modular OT
   - i) All necessary arrangement should be arranged by the agency as part of Modular OT.

7) Changing Room & Wash room.
   - i) Provision of additional electrical points for scrub station & hand shower etc.
   - ii) Replacement of existing conventional light with LED light for better and required illumination.
   - iii) Provision of Fan.

8) AHU Rooms
   i) Replacement of existing conventional light with LED light required illumination.
   ii) Provision of antibacterial electrical switch socket, along with GI Box.
   iii) Provision of electrical wiring & additional electrical points.
   iv) Electrical switchgear & sub main for AHU's as required.
9) ICU Ward (04 Bed)
   i) Provision of antibacterial electrical switch socket, along with GI Box.
   ii) Provision of electrical wiring & additional electrical points.
   iii) Replacement of existing conventional light with LED light for better and required illumination.
   iv) 12 Nos. Switch Socket at each Bed.
   v) Provision of Hermetically sealed sliding doors.
   vi) Installations of nurses call system.
   vii) Provision of LAN circuit & accessories etc.
10) HDU Ward (02 Bed)
   i) Provision of antibacterial electrical switch socket, along with GI Box.
   ii) Provision of electrical wiring & additional electrical points.
   iii) Replacement of existing conventional light with LED light for better and required illumination.
   iv) 12 Nos. Switch Socket at each Bed.
   v) Provision of BLDC Ceiling Fan.
   vi) Provision of LAN circuit & accessories etc.
11) Nurses Station, Duty Room & Washroom
   i) Provision of antibacterial electrical switch socket, along with GI Box.
   ii) Provision of electrical wiring & additional electrical points.
   iii) Replacement of existing conventional light with LED light for better and required illumination.
   iv) Provision of BLDC Ceiling Fan.
   v) Provision of LAN circuit & accessories etc.
12) Treatment and LAB
   i) Provision of antibacterial electrical switch socket, along with GI Box.
   ii) Provision of electrical wiring & additional electrical points.
   iii) Replacement of existing conventional light with LED light for better and required illumination.
   iv) Provision of BLDC Ceiling Fan.
   v) Provision of LAN circuit & accessories etc.
13) Doctors Duty Room
   i) Provision of antibacterial electrical switch socket, along with GI Box.
   ii) Provision of electrical wiring & additional electrical points.
   iii) Replacement of existing conventional light with LED light for better and required illumination.
   iv) Provision of BLDC Ceiling Fan.
   v) Provision of LAN circuit & accessories etc.
14) Male & Female Patient Toilet
   i) Provision of antibacterial electrical switch socket, along with GI Box.
   ii) Provision of electrical wiring & additional electrical points.
   iii) Replacement of existing conventional light with LED light for better and required illumination.
   iv) Provision of Water cooler.

15) Staff Class, Pantry & Wash Room
   i) Provision of antibacterial electrical switch socket, along with GI Box.
   ii) Provision of electrical wiring & additional electrical points.
   iii) Replacement of existing conventional light with LED light for better and required illumination.
   iv) Provision of BLDC Ceiling Fan.

16) Main Corridor and other areas
   i) Provision of air curtain.
   ii) Replacement of existing conventional light with LED light for better and required illumination.
   iii) Provision of antibacterial electrical switch socket, along with GI Box.
   iv) Provision of electrical wiring & additional electrical points.

Note: - Guaranty of LED lights and BLDC Fans should be minimum 5 Years.

Civil Scope of Work

1) Modular OT

   i) Dismantling of Door and chowkhat for sensor door.
   ii) Dismantling of False ceiling.
   iii) Dismantling of Windows.
   iv) Dismantling of floor tiles and replacement with vitrified tiles in the common area of Male toilet.
   v) Making opening for single sensor door.
   vi) Closing of Window opening with brick wall
   vii) Conversion of cubicle into Modular OT with Modular Paneling system (Specifications as per Annexure).
   viii) SS Cabinets below window and above the window platform.
   ix) Epoxy flooring in the cubicle.

2) ICU Ward

   i) Dismantling of Door and chowkhat for sensor door.
   ii) Dismantling of False ceiling.
   iii) All windows to be closed with Toughened Glass.
   iv) SS Cabinets below window.
   v) Nurses station inside ICU.
   vi) Wall tiles of size not less than 600x600mm upto false ceiling level.
   vii) Conversion of cubicle into ICU ward.
   viii) False ceiling work after the required changes of the services.
   ix) Epoxy flooring in the cubicle.

3) Changing Room Complex

i) Dismantling of False ceiling.
ii) Provision of 1 Scrub station in changing areas connected with ETP.
iii) Wall tiles of size not less than 600x600mm upto false ceiling level.
iv) False ceiling works.
v) SS Cabinets below window.
vi) Replacement of Flush door and frame with HPL Doors.
vii) Epoxy flooring in the cubicle.

4) Hydrotherapy Area

i) Dismantling of False ceiling.
ii) Platform with granite top and SS cabinet.
iii) Cupboards for storage.
iv) All windows to be closed with Toughened Glass.
v) SS Cabinets below window.
vi) Wall tiles of size not less than 600x600mm upto false ceiling level.
vii) Replacement of Flush door and frame with HPL Doors.
viii) Epoxy flooring in the cubicle.

5) Male, Female & Pediatrics Wards

i) Epoxy Flooring.
ii) All windows to be closed with Toughened Glass.
iii) SS Cabinets below window.
iv) Wall tiles of size not less than 600x600mm upto false ceiling level.
v) Replacement of Flush door and frame with HPL Doors.

6) Male & Female Toilets

i) Conversion of 1 Room into Male & Female toilet.
ii) Wall tiles of size not less than 600x600mm upto false ceiling level.

7) HDU Room

i) Brickwork for extension of the room.
ii) Epoxy flooring in the cubicle.

iii) All windows to be closed with Toughened Glass.

iv) SS Cabinets below window.

v) False ceiling work.

vi) Wall tiles of size not less than 600x600mm upto false ceiling level.

vii) Replacement of Flush door and frame with HPL Doors.

8) Doctors Duty Room

i) Replacement of false ceiling after works of service lines.

ii) Anti-microbial painting over walls of rooms.

iii) SS Cabinets below window.

iv) Replacement of Flush door and frame with HPL Doors.

9) Main Corridor and other areas

i) Replacement of false ceiling after works of service lines.

ii) Anti-microbial painting over walls of all other rooms.

iii) Epoxy flooring in the corridor and all other rooms.

iv) Wall tiles of size not less than 600x600mm upto false ceiling level.

v) Construction of Nurses Station with plywood.

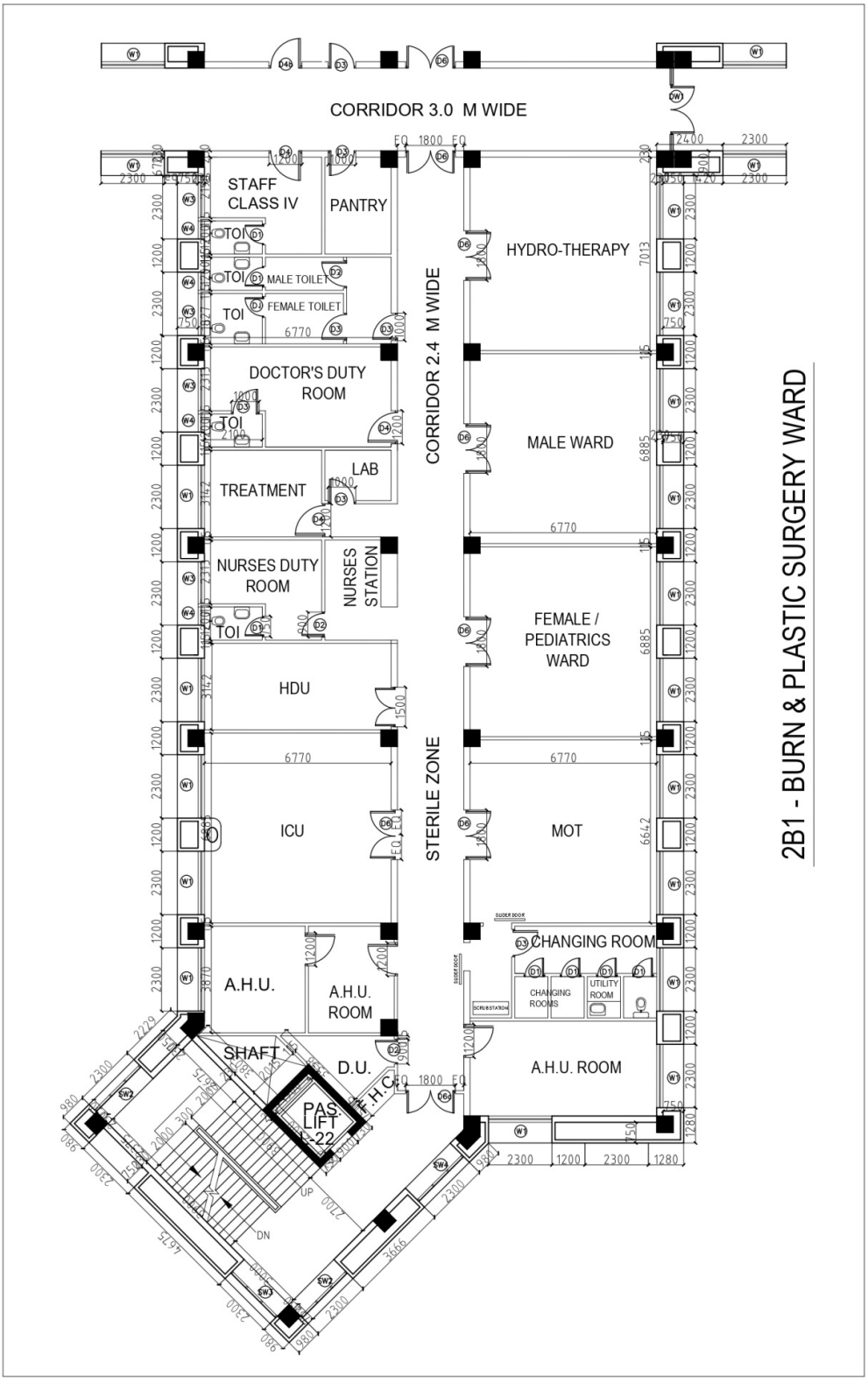
vi) SS Cabinets below window in all other rooms.

vii) 3 No of HPL doors in the corridor for segregating sterile areas.

viii) Replacement of all other Flush doors and frame with HPL Doors.

*Any other works required to complete the work as per the requirement of AIIMS Raipur.

Note:- The layout drawing is attached below:-


CORRIDOR 3.0 M WIDE
STAFF CLASS IV
PANTRY
TOI
MALE TOILET
FEMALE TOILET
DOCTOR'S DUTY ROOM
TREATMENT
LAB
NURSES DUTY ROOM
NURSES STATION
HDU
ICU
A.H.U.
A.H.U. ROOM
SHAFT
D.U.
PAS. LIFT -22
F.H.C.
CORRIDOR 2.4 M WIDE
STERILE ZONE
HYDRO-THERAPY
MALE WARD
FEMALE / PEDIATRICS WARD
MOT
CHANGING ROOM
CHANGING ROOMS
UTILITY ROOM
SCRUB STATION
A.H.U. ROOM
UP
DN
2B1 - BURN & PLASTIC SURGERY WARD

HVAC (AC&R) Scope of Work

OBJECTIVE

To provide a complete, reliable, energy-efficient, and NABH/ASHRAE-compliant HVAC system for the **Burn Unit**, comprising **Operation Theatre (OT)** and **ICU**, with stringent control on temperature, humidity, air cleanliness, and pressure differential to ensure sterile and safe conditions for patients and staff.

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2. SYSTEM OVERVIEW-

Two (02) **new Air Handling Units (AHUs)** shall be installed — one dedicated to **Burn OT** and one for **Burn ICU & HDU Unit**.

Other adjoining areas (e.g. nurse station, doctor room, corridor, changing room, sluice, etc.) shall be **served through existing AHU** with suitable duct modification and balancing as required.

Both new AHUs shall be equipped with full automation and energy-efficient components as per the latest standards.

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3. SCOPE OF WORK DETAILS

(A)Design, Supply, Installation, Testing & Commissioning (SITC)of AHUs(Dx Based)

AHU for Burn OT:

ACPH -25, Temp.-21+-3

100% Fresh Air type with Dehumidifier section

Pre-filter (10 μ), Fine filter (5 μ), HEPA filter (0.3 μ) plenum at terminal

Double skin construction (PUF panel 50 mm)

(DIDW backwards curved) centrifugal fan with VFD, DX cooling coil, drain tray SS-304.
RH, temperature, and pressure control loops with sensors and BMS/Control panel compatibility, AHU Inbuilt Provision -
-Treated Fresh air Unit with UVGI Sysem
-Heat Recovery Wheel
-Desiccant Based Dehumidifier
-100% Exhaust air provision (Cabinet) with UVGI
- All related sensor regarding Control Panel
- 02 Nos Condensing unit for Single AHU (1 No working and 1 Nos as Standby)
Noise level <60 dB(A) at 1.5 m

Design, Supply, Installation, Testing & Commissioning (SITC)**of AHUs(Dx Based):**
ACPH -20,Temp.-21+-3, Pressure -Negative
Treated fresh air with 10–15% exhaust arrangement for negative pressure provision

Filter stages: Pre + Fine + terminal HEPA for isolation rooms

DIDW VFD Centrifugal fan, Dx coil, and necessary control . AHU Inbuilt Provision -
-Treated Fresh air Unit with UVGI Sysem
-Heat Recovery Wheel
- All related sensor regarding Control Panel
-02 Nos Condensing unit for Single AHU (1 No working and 1 Nos as Standby)
Noise level <60 dB(A) at 1.5 m

(B) Ducting & Air Distribution System

Supply and installation of SS 304 **ducting** (as per IS:/ SMACNA standards) with proper supports, vibration isolation, and thermal insulation.

Return and exhaust ducting including dampers, diffusers, grills, and volume control dampers (VCD).

Flexible connections, vibration isolators, and acoustic lining where required.

Balancing dampers and pressure ports for system balancing.

(C) Control & Instrumentation

Room temperature, humidity, differential pressure sensors and display panels.

Control panel with PID-based automation for OT and ICU.

Filter clogging indicators and differential pressure gauges.

Integration with existing BMS (if applicable).

(D) Sound & Vibration Control

Installation of **sound attenuators** near AHU discharge.

Vibration isolation pads under AHU and fan units.

(E) Thermal Insulation

Supply and installation of **Nitrile rubber insulation** on copper pipes and ducts as per specification (thickness 19 mm).

(F) Puff Paneling for OT

Supply & fixing of **50 mm thick PUF panels** inside Burn OT for wall & ceiling lining to maintain laminar flow and hygiene.

Proper cut-outs for HEPA terminal filters and diffusers.

Seam sealing with antibacterial silicone sealant.

(H)Design ,Supply ,Installation ,Testing and Commissioning of Exhaust & Negative Pressure System

Inline exhaust fans sized to maintain **negative pressure** in isolation zones of ICU&AHU Room.

Proper ducting, silencers, and weatherproof louvers.

(I) Testing & Balancing

Airflow measurement, system balancing, and validation.

Verification of temperature, RH%, ACPH, and differential pressure values.

Performance report submission and NABH compliance testing.

(J) Documentation & Training

Submission of as-built drawings, operation & maintenance manual.
On-site training for operation and safety procedures.

MAINTENANCE SCHEDULE DURING DEFECT LIABILITY PERIOD (DLP)

Project: HVAC Works – Burn Unit (ICU & OT)
Location: AIIMS Raipur
DLP Duration: 1 Year (12 Months)
Coverage: All installed HVAC equipment – AHUs (2 Nos.), Exhaust System, Ducting, Controls, Sensors, Laminar Flow System, PUF Panels, DX Coils, VFDs, Electrical Control Panels, and BMS Integration.

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1. OBJECTIVE OF DLP MAINTENANCE

- Ensure uninterrupted and trouble-free operation of Burn Unit HVAC system.
- Rectify any defect, failure, malfunction, or performance deviation **free of cost** during DLP.
- Maintain compliance with **NABH / ASHRAE / ISHRAE** environmental parameters (Temp, RH, ACPH, Pressure).
- Ensure reliability of AHUs, filters, exhaust system, sensors, and all mechanical/electrical components.

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2. MAINTENANCE RESPONSIBILITY DURING DLP

During DLP, the **contractor/vendor** shall be responsible for:

✔ All preventive maintenance
✔ All breakdown maintenance
✔ All consumables: grease, lubricant, cleaning chemicals
✔ Labour & service charges
✔ Replacement of defective parts (except filters/Compressor)

✔ Maintaining logbook & reporting

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3. DLP MAINTENANCE SCHEDULE

A. DAILY MAINTENANCE (By Contractor Technician / Agency Visit if required)

Activity	Description
Check AHU running condition	Noise, vibration, smooth operation
Check Temperature & Humidity	OT 21°C±3 / ICU 21°C±3
Check room differential pressure	OT positive; ICU negative
Check condensate drainage	No choking, no water leakage
Visual inspection of ducts	Leakage, sweating, damage
Record readings	Temp, RH, ACPH (weekly), DP

C. MONTHLY MAINTENANCE

Activity	Description
Deep clean pre & fine filters	As per SOP
Clean drain pan & pipeline	Use anti-microbial cleaning
Inspect AHU coil	Check for dust, freezing
Check grills & diffusers	Cleaning if required
Check all sensors	Temp, RH, pressure sensors operation
Check all dampers	VCD/FD manual or motorized movement test
Check AHU door gasket & insulation	Replace if damaged

D. QUARTERLY MAINTENANCE (Every 3 Months)

Activity	Description
AHU coil cleaning	Chemical cleaning (non-corrosive)
Blower cleaning & lubrication	Check balancing, bearings
Electrical panel inspection	Tightening, relay/MCB health
BMS integration check	Verify alarm, status, control signal
Negative pressure test – ICU	Maintain -5 to -15 Pa
Laminar flow checks – OT	Airflow pattern, no obstruction
Duct inspection	Leakage, sound insulation check

E. HALF-YEARLY MAINTENANCE (6 Months)

Activity	Description
Full AHU internal cleaning	Chamber, insulation, panel
Sensor calibration	Temp, RH, differential pressure
Fan & motor alignment	Re-tensioning, bearing check
Vibration & noise level check	Ensure within limits
Exhaust & Fresh Air system cleaning	Fans, louvers, screens
Duct cleaning (accessible)	Dust removal

F. YEARLY MAINTENANCE (End of DLP)

The contractor shall perform a **comprehensive annual service**, including:

Activity	Description
Complete system performance validation	Temp, RH, ACPH, Pressure
Full coil servicing	Chemical treatment, flushing
Blower refurbishment	Alignment, bearing lubrication/replacement
Full OT laminar flow validation	HEPA PAO/DOP Test (if in scope)
ICU negative pressure validation	Airflow test
Electrical IR testing	Panels, motors, cables
Filter replacement (if specified)	Pre/Fine/HEPA as per contract
Submission of Year-End DLP Report	With performance data

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4. BREAKDOWN MAINTENANCE DURING DLP

- All breakdown complaints **must be attended within 24 hours**.
- Critical failures (Burn OT/ICU shutdown) must be attended **within 2–4 hours**.
- Replacement of defective items (motors, VFD, coils, sensors, dampers, belts, bearings) shall be done **free of cost**.

Sr.No	Item Description	Warranty/ Guaranty	CAMC
1	Light & Fan	5 Years	NA
2	Sanitary ,CP fittings & HPL doors	5 Years	NA
3	AC&R equipments		One year DLP+ CAMC for 4 Years (**Including consumable** as per Annexure-A)

ANNEXURE -A

AMC – Scope of Work

Activity	Frequency	Remarks
HEPA filters cleaning	Half Yearly	HEPA as per manufacturer recommendation
Fine / Pre-filters cleaning	Monthly	Proper cleaning with detergent and water
Desiccant wheel inspection	Half Yearly	Check wheel integrity, rotor alignment, seals
Fan inspection, bearing lubrication, belt tension	Half Yearly	Inspection, Cleaning and bearing replacement if required (found abnormal sound)
VFD inspection	Quarterly	Check parameters, cooling, fault logs
Reactivation heater inspection	Monthly	Check electrical continuity, safety thermostat, heater panels
Duct & cabinet inspection	Annually	Clean AHU casing, duct access, condensate pans, U-trap integrity
UV lamp & sensor checks	Monthly	Record running hours, replace if needed
Control Panel calibration	Quarterly	RH, temperature sensors, interlocks, alarms
VRF units inspection	Quarterly	Outdoor full servicing (Jet machine),Compressor performance, refrigerant levels, electrical connections and rectify if any required
AHU Unit Complete	Quarterly	Check blower /fan motor /drain line, Cooling Coil etc. and servicing/rectification
Fire damper /Actuators/Control system	Quarterly	Check and rectify if any found
Duct & cabinet inspection	Annually	Clean AHU casing, duct access, condensate pans, U-trap integrity
Grill/Diffuser/Acoustic/Cable repairing/ Replacement	Annually	Cleaning/Rectification
DOP/PAO Test (as per NABH/ASHRAE 170)	Half Yearly/Yearly	As per instruction
Any Fault Occurs Due to which HVAC System not performing	Daily	Any Rectification/Replacement of any part/Equipment to run HVAC System (Excluding Compressor and Hepa Filters) Within 24 Hours.
Hepa Filters	DOP/PAO Test (as per NABH/ASHRAE 170)	Replacement of Hepa Filters
Compressor	If Fault not rectified & Replacement is Mandatory	Replacement of Compressor

Technical Specificaiton and Installation process for Medical gas copper pipeline & other items

1. Bidder should supply and install Medical Grade Copper Pipes:

(a) Copper Pipes should meet with BS EN:13348:2016 standards. It should be solid drawn, seamless, deoxidized, non-arsenical, half hard, tempered and degreased copper pipe confirming to the standard. All copper pipes should be medical grade degreased &delivered capped at both ends. The Copper pipes should be accompanied with Manufactured Test certificate for the physical properties & chemical composition. Degreasing of pipe shall be such that there is less than 20mg/m2 (0.002mg/cm2) of hydrocarbons on the degreased surface when tested by the method specified BS EN:13348 :2016.

(b) Copper pipes must be inspected and duly Third Party Certified by (Lloyd's Registered Asia). BSI KITE Marked & CE marked Copper pipes/tubes size and thickness of copper pipes 22mm Outer Diameter x 1mm thickness 15mm Outer Diameter x 1mm thickness.

(c) Pipeline Installation: Before erection, all copper pipes, fittings like bends, tees, reducers etc. should be cleaned for dirt, and should be degreased.

(d) Proper pipe cutters and bending machine should be used during installation of Copper pipes. All copper fittings like bends, Tees, reducers and straight couplings should be of same make as of copper pipes. Copper pipes and copper fittings must be manufactured by same manufacturing company. Each copper fitting of size 42mm or above should be individually packed.

(e) Brazing of pipe joined by silver brazing method for copper to copper. Inert gas welding technique should be used by passing Nitrogen gas inside the copper pipes during silver brazing, in order to avoid carbon deposition inside the copper pipes. All the installed pipes and joints must be leakage test with nitrogen gas for 24 hours before fixing of gas outlet and paint.

(f) Copper pipes of the diameter up to 42mm OD Should be installed on the wall with the help of plastic saddles at the required span, as per HTM-0201 and metallic white powder coated clamps Should be used for pipe sizes above 54mm OD. Wherever the pipes cross brick walls, it should be covered with plastic pipes. All pipes should be installed without springing or forcing. All pipes should be protected against mechanical injury in a manner satisfactory to authorities having jurisdiction.

(g) Test: After erection, all the pipes should be cleaned or purged with the help of dry nitrogen gas, &should be tested with dry nitrogen at a pressure of 10 Bar for 48 hours.

(h) Painting: All installed pipes should be painted with two coats of synthetic enamel paint & colour

codification as per HTM standards.

(i) Measuring unit shall be in Mtrs.

(j) Origin should be Mehta Tube-India/Rajco-India/Lawton

2. OD 15mm Copper tube with fittings – 30 Mtrs

3. OD 22mm Copper tube with fittings – 40 Mtrs

4. Bidder should supply and install Gas Terminal Outlets in pendent:

(a) 1- Terminal Units (Gas Outlets) with probes/Adaptors for Anesthesia pendent oxygen 02 nos, N2O 01 no, Compressed Air 4 02 nos, Vacuum 01 no.

(b) 2-Terminal Units (Gas Outlets) with probes/Adaptors for Sergeon pendent oxygen 02 nos , Compressed Air 4 01 no, Vacuum 01 no.

(c) The Medical gas outlets shall confirm to It should complies with HTM 02-01 / NFPA 99C Standards. It should be US FDA / European CE Certified with 4 digit notified body number or ETL Listed/UTL Listed/BIS certified. Front Loading Type Terminal Outlets should be designed to dispense medical gases (or an inlet for medical vacuum) to the secondary equipment (flowmeters, Suction regulators, etc.) at the point of use and is gas specific so that secondary devices cannot be “attached” to the wrong gas. When not in use the gas in a non-flowing state within the Outlet (Terminal unit) sealed by “O” ring. The adapter when inserted pushes the poppet inside and the gas starts flowing and sealing is ensured by the “O” ring or a seat.

(d) The Outlets are Quick Connect Type and gas specificity is accomplished by "Pin indexing." The outlets should have following features:

• Push to insert and twist-to-release mechanism for probes.
• Allows plugging of probes from front.
• Self-sealing valve on disengaging the probe (Quick disconnect)
• Smooth quite action.
• Non return valve for on line servicing/repairing
• Indexed to eliminate inter-changeability of gas services
• Color-coded gas specific front plate
• Totally leak proof, safe & easy to operate
• Configurations possible: surface, flush &Bead-head.
• Outlet should be European CE certified or American UL listed
• All outlets should have respective labels (i.e.O2/N2O/Air4/Vacuum/ etc.)

Note:- It should be of AMICO-Canda/Atla Copco UK/MEC/Any imported make

5. Oxygen Gas outlet in pendent – 04 Nos.

6. Air-4 gas out let in pendent – 03 Nos

7. Nitrous Oxide gas out let in pendent – 01 No.

8. Vacuum gas outlet pendent – 02 Nos.

9. Isolation valve 22 mm (Indian) – 01 Nos

TECHNICAL SPECIFICATION FOR OPERATION THEATRE

Comprehensive Warranty required in years for complete MOT	Freezing of CMC Charges in years	Remarks
05 years	05 years	The cost of MOT should include comprehensive warranty for complete MOT for 05 years. The CMC charges in percentage (% - Inclusive of GST) to be frozen for 05 years after warranty of 05 years.

SCOPE OF WORK: to Plan, supply, construct and commission UCV Operating Theatre, with objectives of Infection control and promoting high standard of asepsis completely in accordance with the specifications, bill of quantities, including necessary Turnkey work and providing of free spare parts and service during one year Defect Liability Period.

SELF LOADING WALL & CEILING CLADDING SYSTEM

1) The Wall Cladding system will be based on a technological modular unit designed to clad and to divide interior space in controlled bacteria environments in a flexible and functional manner. The outer surface of a wall surface should be created with **ANTIBACTERIAL SURFACE.**

System should offer total ease of cleaning and sanitization of the panels. It should have no corners; adjacent surfaces should be molded flush by means of connecting elements. The clean, dry installation method should enable optimum programming of the various work phases, allowing optimization of the installation of technical systems and any necessary alterations to he made – right up to checking and final testing of the installed systems – before the modules are sealed.

System should comprise of:

1. A self-loading sub frame load bearing structure.
2. Perimeter finishing panel.
3. Absolutely no Sealing gaskets (the appearance of OT should be completely joint free, only joint permitted will be light fittings, accessories. No joint in walls and ceiling should be visible to make OT completely free of infection

System should assure the maximum independence from the surrounding environment because it should be composed of a sub frame made of specially designed Galvanized steel framework specifically manufactured for the loading structure and designed to create the necessary technical voids to house

utility networks and pipe/cable drops.

Galvanized steel fabricated Horizontal guides and rails sized to support the self-loading modules and prearranged for the future attachment of the connecting profile.

Upright made of galvanized steel pillars/rails with broad cross section and dual cavity, with geometry designed to achieve exceptional rigidity.

WALLS & CEILING CONSTRUCTION:

The room wall should have two independent surfaces with a minimum opening in between. The external walls of the room should be constructed with solid bricks with cement plastering.

The modular panel's can be constructed with various materials, for example Injected PUF panels, Honeycomb sandwich Aluminium panel, Stainless steel, with anti-bacterial PVC or solid mineral surface.

PUF PANELS: The inner surface walls should be constructed with dual .80mm thick EGP steel panels with injected PUF insulation in order the finished panel will have a thickness not less than 50mm, these panels should have flame resistance to BS 1142 part 3.

The inner surface walls should be fixed to the brick 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 should be variable to suit the architects' layout, but should be sufficient for the flush mounting of equipment's.

The individual wall panels should be interlocked with Camlock mechanism at equal intervals to render equal support to the panels. All joints should be filled with metal filler and sanded flush on site, ready to receive the plastic finish. Wall panel joints should be invisible after the final wall coating is applied.

The cavity between the inner and outer walls should be left with minimum obstructions 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 should be flush mounted and sealed into theatre.

The wall panel design and construction should allow for the installation and support of all equipment and the provision of openings required for the installations, without affecting rigidity and strength.

Access boxes may be fitted where required to the rear of all wall-mounted equipment to enable maintenance to be carried out from outside the operating room.

All the sharp edges and corners should be in radius for ease of cleaning to avoid bacterial contamination.

The internal surfaces of the room walls should be sprayed with water based anti-bacterial Paint, to a minimum dry film thickness of 300 microns. The paint coating will overlap the floor covering, ceiling system and doorframes by 25mm to provide a continuous sealed surface. The paint coating should be non-reflective and in approved colour

The four corners should have return air duct outlets, the grill of which should be made of extruded aluminum, duly powder coated.

PLANAIR CEILING SYSTEM

The laminar flow system shall comprise of the thick extruded aluminum profiles frame. The complete unit should have factory prepared fine sealing system along with proper test certificates. The plenum should be supplied at site duly sealed in factory made packing. The Caracas of the plenum should be

made of extruded aluminum sections which should support the fire retardant FRP housings in such a manner that the air is passed only through the mini pleat HEPA filters only. The Laminar flow system should have anodized aluminum perforated diffuser grill. The laminar flow system should have such design that it provides cleanliness of class 100. (< = 100 particles/ft3) and bacteriological class B (< = 20 cfu/m3).

Perfect Tightness guaranteed by an Epoxy seal between filters and holding structure enabling no bypass of HEPA Filters. Complete Filtration System should be factory assembled, tested and packed. Both Plenum and filters should be from one Source Company and air ceiling system should be duly CE marked.

The absolute filters installed in the plenum should be suitable for applications for Laminar flow and clean rooms, these absolute filters should be mini pleat HEPA filters having extruded anodized aluminum, 69 mm deep frame, and filter should provide flow uniformity exceeding +/- 2.5% meeting following specifications:

Sealant	Polyurethane
Gasket	One piece polyurethane
Max Op Temp.nn	60 degree centigrade
Maximum RH	90 percent
Efficiency Tests	Filters individually tested and certified

OPERATION THEATRE FLOORING (ANTISTATIC CONDUCTIVE TILES):

A floor screed should be provided, flat to within a tolerance of +/- 3mm over any 3-metre area. Onto this sub floor, a self-leveling compound should be laid prior to lying of the floor finish. Copper grounding strips (0.05mm thick, 50mm width) should be laid flat on the floor in the conductive adhesive and connect to copper wire of grounding. The floor finishes in the operating room should be 2mm Conductive PVC tiles, laid on a semi conductive adhesive base. The floor finish should terminate at the room perimeter passing over a concealed cove former and continuing up the wall for 100mm. All joints should be welded with electrodes of the same compatible material to provide a continuous sealed surface. The floor should have an electrical resistance of 2.5x10 to 10 6 Ohms, as per DIN 51953 ATM F-150 or NFPA 99, B1 class of fire resistance and should meet UL standard 779. Fulfils product requirements as per EN 649.

AUTOMATIC HERMETICALLY SEALED SLIDING DOOR SYSTEM (01 for patient and 01 for surgeon entry – Total Qty – 02 Nos.)

To maintain sterility and correct air pressure in the theatre, all doors should be single leaf sliding and hermetically sealed type. The door should meet following specifications:

- Controller should be Microprocessor based controller (CE marked)

- Motor should be 24V 70W brushless DC Motor.
- Noise level of movement should not be more than 60 decibel.
- Power efficiency should be 95%.
- The track should be made up of single piece extruded aluminum
- Environment temperature should be –20 ºC to +55º C.
- Electrical safety codes for High & Low voltage system
- Design should meet HTM 2020 /2021 standards.

The door frame should be made of high quality anodize aluminum and the door panel should be made of compact laminate that can withstand high abrasion. To ensure efficient sealing of the door's frames should be provided. They will consist of reinforced plasterboard panels faced with same laminate as the doors.

The door should seal on all four edges in the closed position & should be surface installed type.

The track of the door should be constructed with high quality door lock with aluminum extrusion, fixed firmly to the walls.

Nylon runner guides should be fixed to the door in such a way they do not obstruct trolley movement through the door.

The door frames should be edged with an aluminum extrusion & with concealed fixings that are adjustable during installation to ensure a 100% hermetic seal is achieved.

Vision panels, 300mm x 300 mm should be provided in the doors.

The door controller should be sensing overload condition and in overload case the door will automatically stop & reverse the direction of travel.

The controller should be capable of either being operated by elbow switches, foot switches, radar switch (touch less sensor). All doors should be able to be operated easily manually in the event of failure of the power supply or the automation unit. There should be two speed sensors for half & full closure of the door.

PERIPHERAL LIGHT

It should be fitted outside the air ceiling system area and flush with the ceiling in the operation theatre. It should be suitable to required illumination in OT. Peripheral lights and clean room luminaries fitted in the frame should be adequate in numbers for each OT. The lamps with highly spectacular anodized Aluminum reflectors and optical antiglare system for adjustable light distribution. Luminaries cover made of highly resistant, disinfectant proof laminated safety glass with fine grained surface, glass pane with white powder coated steel frame. Luminaries' body made of sheet steel, white, powder coated supplied ready for connection. The reflectors should be of high quality, cleanable and non-deteriorating. Dimmable lamps of reputed companies to be used and diffuser should be constructed with opaque acrylic diffuser material in powder coated aluminum frames/ SS-304 frames. It should have flicker less

design with color. Recess frames should be gas tight. The fitting should be flush with the ceiling and should be removable form top or bottom. Lighting units should be properly sealed with the ceiling by means of fillers and beadings so that all lighting units are airtight with ceiling panels. The light fitting should be uniformly and aesthetically distributed on the ceiling to provide uniform illumination in the OR. Peripheral lighting should be done according to IP65 protocol. Light should not interfere when green mode of Endoscopy is performed.

OPERATION THEATRE CONTROL PANEL

The OT Control Panel should be designed to cope with changing equipment technology in operating environments. Control panel should be user friendly and ease of operating and maintaining purpose.

The **touch screen** typed Control Panel should be 19" medical grade color TFT/LED panel with 1280 x1024 (SXGA) resolution stationed in the sterile field. The Control Panel should be configured to incorporate all the services required by the staff in the operation theatre. It should be mounted flush in the theatre wall.

The Control Panel should comprise of following nine (9) services in addition to Instruction board, Communication interfaces- both audio and video etc.:

- Day Time Clock
- Time Elapse Day Clock
- General Lighting System
- Hands free telephone set with memory card
- Temperature and Humidity Indicator with Controller
- Medical Gas status/alarm
- HEPA Filter Status module
- Digital Room Pressure indicator

Day Time clock/Time Elapsed day Clock should be digital type and bright and the height not less than 30mm

Temperature and Humidity Indicator should indicate temperature and humidity of the theatre, and the display shall be digital and bright and the height not less than 30mm. The temperature and Humidity controller should be connected to the Air Conditioning system.

General Lighting System should incorporate all the necessary controls of all the lighting system including Dimmer for peripheral/planair lights. Medical Gas Alarm should indicate high, normal and low of gas pressure for each gas service provided in the operation room. Alarm should be equipped with audible Buzzer. The pressure sensor of the Alarm should be connected to MGPS for monitoring the pressures.

The control panel should be user friendly and ease of operation and maintenance. All internal wires should be marked with plastic ferrule type cable markers, for ease of identification. The control panel should be able to be integrated with the commonly used OT software in future.

The control panel should meet Electrical Safety Code for High and Low voltage system, wired to the current IEE regulations

X-RAY FILM VIEWER

The two (2)-plate viewing LED type/4 pieces of high frequency fluorescent lamps X-Ray Viewing Screen should be designed to provide flicker free luminance for clear film viewing. Each plate should be able to illuminate films upto 14"x17" size. 'Dimming is controlled using dimming ballast and PCB mounted inside the box. The mounting of the Screen should be installed flushed with Operation theatre wall to avoid dust accumulation and microbial growth and ease of cleaning. The diffuser should diffuse the light evenly and to provide adequate luminance for film viewing. Body should be ofextruded aluminum powder coated black with bacteria and disinfectant resistant finish. Proper spring loaded film clip with rollers should be provided to holes of the films firmly and to remove the film without scratches. The X-Ray Film viewer should comply with relevant Electrical Safety Codes for High and Low voltage system.

1. **WRITING BOARD**

Writing Board as operating list Board of size-1000x700x60deep should be made of ceramic having magnetic properties and should be flushed to the wall of the operating Room.

2. **BUILT-IN STORAGE UNIT**

Storage Unit should be made out of 1.60 mm thick AISI-304 Stainless steel. The storage unit should be divided 2 or more parts and each part should have individual glass doors with high quality locking system. These doors should be installed on the storage units with the help of imported fittings allowing an opening allowance of 160degree. Each part should be provided with steel racks which should be completely detachable type. The storage unit should be fitted with 5mm thick vacuum insulated glass door and mounted flush with the theatre wall. The storage unit should be continuously ventilated by positive air in the OT through ventilation holes provided at the bottom and top of opposite sides. The dimensions of each storage unit should not be less than height 2100mm x width 1200mm x depth 350mm.The storage units should be designed in a way that they are flush with the OT wall panels and the units should be air tight, not allowing any leakage between units and the wall panels.

3. **DISTRIBUTION BOARD AND ELECTRICAL WIRING, CONDUITING WITH FIXTURES INSIDE THE OPERATION THEATRE**

Electrical Distribution Board along with Transformers, Mains, Relays, Circuit protective equipment, for all circuits of Operation theatre shall be installed in the remote cabinet. All electrical wiring should be terminated to the connectors mounted on rail and labeled with indelible labels. Individual fuse and miniature circuit breakers should protect all internal circuits. Complete schematic diagram drawing description should be enclosed with the equipment.

Laying of PVC conduits, Modular Switch Boxes, Modular Switches-sockets, Power and Light wiring including Earthing wire for all the lighting controls, Pendant and other equipment fixtures and fittings

inside the theatre Wiring with low leakage current wires of FRLS wires should be as per requirements. Wiring for 250 volts single phase and neutral 6/16 Amps switched socket outlet with 4 sq.mm and 2.5 sq.mm PVC insulated copper conductor 1100 volts stranded flexible wires should be concealed with conduit. Installation of all electrical cabling must be of IS: 1554 (As per latest amendment) standard and wiring as per IS: 732 standard and proper earthing of OT and other accessories in the OT room as per standard guidelines of BIS. Fittings should be sealed on accordance with the standard IP54. Earthed equipotent bonding of all exposed metal work should be provided.

4. VIEW WINDOW (optional)

View window with two parallel toughened glasses of thickness 5.5 mm. A motorized blind will be installed sandwiched in between these glass panes, this blind should be operable by a remote and should provide flip and rotation movements. The Window frame should be powder coated Aluminum of approved shape flush mounted with wall paneling. The entire assembly should be completely vacuum sealed and fitted with proper Aluminum profile. The assembled thickness of the Window should be approx. 33 mm.

5. EXTERNAL DUCTING

The exposed ducting from inside OT to roof mounted AHU shall be done as per IS codes and standards duly fabricated out of 22 g Galvanized steel sheet complete with flanges and accessories such as GI suspenders and GI supports completely sealed with Silicon sealant duly insulated with aluminum foil Nitrile rubber self-adhesive type insulation and finally painted with EPOXY waterproof UV resistant paint. Animal proof grill should be installed over the ducting.

6. INTERNAL DUCTING

The ducting inside OT shall be done as per IS Codes and standards duly fabricated out of 22 swg galvanized steel sheet complete with flanges and accessories such as GI suspenders and GI supports completely sealed with Silicon sealant duly insulated with aluminum foil Nitrile rubber self-adhesive type insulation.

7. PRESSURE RELEASE DAMPERS

Pressure Relief Dampers shall be provided in each room to prevent cross contamination of air from clean and dirty areas. Suitably sized air pressure relief damper shall be strategically placed, enabling differential room pressure to be maintained and ensure that when doors are opened between clean and dirty area. Counter-weight balancing system shall be provided in the PRD to maintain positive pressure inside the operation room. Air pressure stabilizers shall have unique capability of controlling differential pressure to close tolerance. The PRD shall remain closed at pressure below the set pressure and shall open fully at pressure only fractionally above the threshold pressure.

The body shall be epoxy powder coated as per standard BS colors.

First class aluminum extrusions shall be used for body and with high grade Powder coated aluminum

extruded sheet for blades.

8. STATICHATCH BOX (Pass Box):

A Hatch shall be provided in each Operation Theatre to remove waste materials from the Operation Theatre. Each Hatch shall be equipped with two doors and the door shall be operated electronically .The Hatch shall be designed in such a way that only one door shall be opened at one time. The UV light shall be so installed that it is kept on while both the doors are closed, this UV light has to be automatically turned off in case of opening of either of the doors. There shall be indicators on both sides of the OT so that the door open/close status can be monitored from both ends. The construction shall be in SS 304 stainless steel and shall be hermitically sealed with high performance gaskets.

9. ANAESTHESIA EQUIPMENT PENDANT(double Arm Moveable Pendant)

The Equipment Pendant should be with Double Arm (1000 mm and 700mm) Horizontal motion.

The Equipment Boom should be custom designed to meet all specific needs of the operating room such as concealed cables and tubes and each should come with mechanical brakes as a standard option to support a locked position. The Equipment Pendant should have minimum following features:

- Load bearing capacity: 100 kgs
- Braking System : friction type multi bearing
- Gas Service : provision for 8 gas outlets
- Electrical Service : 12 combination sockets
- Communication / Data Points: 12 points
- Shelves : 750mm
- Rotation, Top arm : 330^{o}
- Rotation Lower arm : 330^{o}
- Rotation Service Head : 340^{o}
- Equipment pendent should be ready with the cables for integration of 1280 x 1024 High-Definition Digital signals to travel from the high-definition progressive scan endoscopic camera to 1280 x 1024 high-definition flat panel monitors, while assuring native resolution / signal.
- Equipment pendent should be ready with the cables for accessibility of PACS and Telemedicine from the sterile files.

SURGEON EQUIPMENT PENDANT: Single Arm Moveable Pendant

The Equipment Pendant should be with Single -Arm (1000 mm) Horizontal motion.

The Equipment Boom should be custom designed to meet all of the specific needs of the operating room such as concealed cables and tubes and each should come with mechanical brakes as a standard option to support a locked position. The Equipment Pendant Should at least have:

- Load bearing capacity : 120 kgs

- Braking System : friction type multi bearing
- Gas Service : provision for 8 gas outlets
- Electrical Service: 12 combination sockets
- Communication / Data Points : 12 points
- Shelves and docking system ; One set
- Rotation of arm :330^{o}
- Rotation Service Head : 340^{o}
- Equipment pendent should be ready with the cables for integration of 1280 x 1024 High Definition Digital signals to travel from the high definition progressive scan endoscopic camera to 1280 x 1024 high definition flat panel monitors, while assuring native resolution / signal.

Equipment pendent should be ready with the cables for accessibility of PACS and Telemedicine from the sterile files.

AIR HANDLING UNITS (AHU) FOR MODULAR OT

The specifications of AHU and HVAC are included above.

Ceiling Mounted Operation Theatre Lights

OT Light Should be ceiling Mounted. It should be Double Dome with high performance. OT Light should be based on LED Technology Light should consist of central Axis, Horizontal Arm, Height Adjustable spring Arm in light. OT Light should have cardinic system for the light head dome. The Dome and suspension should be sealed dust proof. The suspension should be drift free. All the main joints at central axis should have unlimited 360 degree mobility. There should be central, sterilizable, exchangeable handle for sterile positioning of the light.

Head/Dome size 700mm approx. 10. Light Source high power life LED: 50,000hrs or more.

The light should have at least 3 color LEDs for excellent tissue differentiation during surgery, thereby reducing strain and fatigue on the surgeon's eyes, when operating for long hours. The output light must be glare free.

The light domes must be constructed of heavy aluminum casting (not of any type of plastic) for better heat dissipation. Light Field should be adjustable from 18cm to 30cm or more (±10%), digitally adjustable from the control panel on the light dome and by wireless remote control.

Illumination by each dome; at least 160000 lux at 1 mtr. With intensity controller 4/5 multiple step level of discrete position.

Colour Temperature adjustable in 4 steps from 3500-4000-4500-5000K .

Number of LED's in each dome: More than 50nos; Colour Rendering Index: 95 or more.

Heat to Light Ratio: 3.40 m W/Lux- Sq meter or lower.

. Switching the Light Head on/off, changing of intensity, light field diameter change, and endo function,

should be possible within sterile field from control panel fixed on light dome handle, and also by outside sterile zone of light through cordless remote control. The control panel with controls should be a LCD panel, brightly lit for easy operations.

There should be a sync function in the control panel, so that both the domes can be controlled together at the same time from any single control panel if required.

Electrical safety conforms to the standards for electrical safety IEC 60601-1 General requirement.

List of required Equipments (Technical specification is listed at Section VII)

S. No.	Name of Equipment	Required Qty.	Required Nos. of warranty years	Required Nos. of CMC years, post warranty period
1	Fully automatic ICU cots with Mattress	6	2	8
2	Over bed table	14	1	NA
3	Ward Beds with Mattress	8	5	NA
4	Side Table	14	1	NA
5	High end ventilator	7	2	8
6	Multi para monitor-Modular	7	2	8
7	ECG Machine 12 Channel	1	3	NA
8	Blood gas analyzer (Permanent Electrode	1	2	8
9	Defibrillator with ECG	1	2	8
10	Syringe pump10,20,50ml	12	1	NA
11	Infusion Pump	4	3	NA
12	Pump, Suction, Portable, 220 V	2	3	NA
13	Spot Lamp(emergency lamp)	2	3	NA
14	Laryngoscope set-All Biades	3	3	NA
15	Resuscitator, Hand - Operated, Adult1000	5	1	NA
16	Hydrosurgery System	1	2	8
17	Autoclave	1	2	6
18	Nerve Stimulator	1	3	NA
19	Fully automatic OT table	1	2	8
20	Electrosurgical Generator	2	2	8
21	Instrument Trolley-Modular	1	1	NA
22	Battery Operated dermatome 4inch	2	2	6
23	Mobile C-Arm image intensifier	1	2	8

24	Mesher	2	2	6
25	Microscope	1	2	8
26	Dual Cuff Pneumatic Tourniquet	1	3	NA
27	Meek Micro grafting Equipment	1	2	8
28	Orthopedic Battery Operated Drill Machine	1	5	NA

Note: - The above & below mentioned scope of work and list of equipments are tentative only.

SECTION – III

Scope of Work

SCOPE OF WORK INCLUDING PROJECT MANAGEMENT CONSULTANT (PMC) SERVICES

3. 1 BROAD SCOPE OF WORK

3.1.1 The Project Management Consultant (PMC) will act as 'Engineer-in-Charge' on behalf of AIIMS, Raipur for implementing the overall project.

3.1.2 PMC shall be required to manage the entire project activities from conceptualization up to completion, as per requirements, specifications & conditions laid down in this document, but not limited to.

3.1.3 The Technical details of the project are given in Section II and technical specification of tentative equipments are given in Section VII.

3.1.4 The detailed architectural service to create a State of Art Burn Unit is an integral part of scope of work of PMC. The activities under the scope of work of PMC shall broadly include but not limited to the following:

A) Pre-construction Stage: (Timeline – 03 Months)

The PMC shall ensure

(i) Preparation of detailed engineering drawings including Civil & plumbing, Electrical & Fire Fighting, AC & R (HVAC), MGPS and other services drawings in due consultation with AIIMS Raipur.

(ii) Preparation of detailed technical specification including warranty & CMC terms of all the equipments, required in consultation with AIIMS Raipur and commensurate with but not limited to the technical specification given in this document.

(iii) PMC shall furnish detailed PERT/CPM charts with clearly defined milestone activities.

(iv) The PMC will submit the Good for Construction (GFC) drawings in Seven (07) sets for approval to the Institute before starting the construction work of each assigned project. GFC drawings will include but not limited to Civil & plumbing, Electrical & Fire Fighting, AC & R (HVAC), MGPS, external development details, documents etc. and all required Architectural drawings duly approved by local statutory bodies (if required), structural drawings- proof checked/vetted by appropriate authority (If applicable). The Institute will issue the GFC drawings to the PMC (retaining two sets with Institute) for its execution.

(v) Thereafter PMC shall prepare tender documents, and issue NIT/RFP as per provisions of CPWD manual or by following PMC's own procedure or other procurement manual applicable to PMC and by inclusion of warranty, AMC, Spare Parts, Consumables Terms & conditions.

(vi) PMC shall process the procurement cases and award the works (Internal and External) by following their laid down rules and procedures and get them executed as per technical specifications given by AIIMS Raipur.

(vii) All contracts for execution of construction works shall be signed by PMC with various agencies. The following clause shall be added in the contracts to be awarded by PMC:

"PMC is awarding this work on behalf of AIIMS, Raipur. In case M/S… ..... (PMC) ceases to be the PMC, the right and responsibility of M/s ..... (PMC) in the contract shall get transferred to AIIMS, Raipur and/or their nominated agency shall operate this contract."

(viii) PMC shall ensure that all stores/equipments/works including any type of fittings including cables, Toilet fittings, Lightings etc. are inspected and accepted by the AIIMS, Raipur.

(ix) PMC shall ensure and review progress meetings on monthly basis or even lesser intervals, if required and intimate AIIMS Raipur authority for monitoring of the progress of the project.

(x) Co-ordinate with vendors / Contractors and arrange for user operation and maintenance manuals and training to AIIMS, Raipur representatives. All warranties and guarantees on equipments / fixtures etc. procured by the PMC shall be in the name of AIIMS, Raipur and appropriate clauses will be inserted in the tender documents by PMC in this regard.

(xi) **For procurement of works** - PMC shall ensure inclusion of suitable clauses in their tenders for obtaining of **Security Deposit/Retention Money** for **Five Percentage (05%)** of each running bill (periodic/ interim payment) until final acceptance. The contractor may, at his option, replace the retention amount with an unconditional BG from a bank acceptable to the PMC at the following stages: (In case BGs are obtained, these should be in name of The Director, AIIMS, Raipur)

A) After the amount reaches half the value of the limit of retention money; and

B) After the amount reaches the maximum limit of retention money. One-half of the retention money (or BG, which replaced retention money) shall be released on the issue of the taking-over certificate; if the Taking Over Certificates (TOCs) are issued in parts, then in such proportions as AIIMS, Raipur may determine, having regard to the value of such part or section. The other half of the retention money (or BG, which replaced the retention money) shall be released upon expiration of 365 days after the DLP of the works or final payment, whichever is earlier, on certification by AIIMS, Raipur. In the event of different defect liability periods being applicable to different sections or parts, the expiration of defect liability period shall be the latest of such periods.

The requirement of warranty/guaranty, DLP and CAMC is tabulated in section II. The cost of procurement should be all inclusive of CAMC & consumables, as applicable & explained in section II.

For Procurement of equipments & MOT (Tentative list of 28 types of equipments tabulated in Section II) –

(xii) PMC shall ensure inclusion of **Comprehensive Warranty** for all the equipments & MOT as listed in Section II, which shall be enumerated from the date of installation & commissioning and **acceptance** of the equipment & MOT by Joint Receipt & Inspection Committee. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty period, valid for 02 months beyond** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

(xiii) PMC shall ensure inclusion of the clause in tender document stating, "Notwithstanding the fact that the AIIMS Raipur or inspection officer may have inspected and/or approved / accepted the said Goods, it is further guaranteed that if during the said guarantee / warrantee period, the Goods be discovered not to conform to the requisite description and quality and/or not giving satisfactory performance or have deteriorated, and the decision of the Buyer in that behalf shall be final and binding on the Seller and the Buyer shall be entitled to call upon the Seller to rectify and/or replace the Goods or such portion thereof as is found to be defective by the Buyer **within 7 days**. Otherwise, the Seller shall pay to the Buyer such compensations that may arise by reasons of the warranty therein contained."

(xiv) PMC shall ensure inclusion of the clause in the tender document stating, "Comprehensive warranty shall include preventive maintenance including calibration as per technical/ service /operational manual of the manufacturer, service charges and spares. During the warranty period commencing from date of the successful completion of warranty period, Service personnel shall visit each consignee site as recommended in the manufacturer's technical/ service /operational manual, at least once in six months. **Warranty shall not be including the consumables.** Further there will be **98% uptime** warranty during warranty period on **24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend warranty period by double the downtime period.** The purchaser/AIIMS Raipur may proceed to take such remedial action(s) as deemed fit, at the risk and expense of the supplier and without prejudice to other contractual rights and remedies, which the purchaser may have against the supplier."

(xv) PMC shall ensure inclusion of the clause in the tender document stating, "**Spare Parts:** Seller shall provide materials, information etc. pertaining to spare parts manufactured and supplied by the OEM. It shall be ensured that the required spares are available for purchase at least for **10 years from date of supplies**. In case due to any reasons the production of the spare parts is discontinued, sufficient advance notice should be given to the buyer/consignee before such discontinuation to provide adequate time to purchase the required spare parts etc. Further, OEM and their service centres/dealers shall carry sufficient inventories to

assure ex-stock supply of consumables and spares for the equipments so that the same are available. OEM or reseller shall always accord **most favoured client status** to the buyer/consignee and shall give the most competitive price for spares and consumables of its machines/equipments supplied."

(xvi) PMC shall ensure inclusion of the clause towards Comprehensive Maintenance Contract (CMC) for the period indicated in Section II **post completion of warranty period.** CMC shall include preventive maintenance including calibration as per technical/ service /operational manual of the manufacturer, service charges and spares, after satisfactory completion of Warranty. **Cost of consumables shall not be included in CMC**. Further there will be **98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period**. The CMC clause should include the following:-

(A) CMC charges to be indicated as percentage of cost of equipment including warranty period, if any, quoted for each year after the warranty period. GST shall be included in the CMC Charges quoted.

(B) Performance bank guarantee applicable for CMC is to be submitted at start of the CMC and shall be applicable as **5% on total CMC Charges**. The PSD submitted after award of contract shall be released only after new PBG for the CMC period is submitted and accepted by buyer/consignee after due verification. **Bank guarantee for CMC is to remain valid till completion of CMC period plus one year.** The bank guarantee for CMC shall be submitted to AIIMS, Raipur directly. In case, seller fails to submit the PBG or does not provide services for the CMC contract after expiry of warranty period then PBG of equipment shall be forfeited.

(C) CMC Charges are inclusive of all the charges for Transportation, Lodging, Boarding, all insurances including third party insurance and all other incidental charges. The same shall include GST. The prices also include cost of spares and damaged parts. Purchaser does not have any liability, whatsoever, over and above the cost of CMC. It also includes for arranging hand tools & tackles, special tools etc. required to carry out the work.

(xvii) PMC shall ensure that in all tender of equipments/utilities, rate of CMC is frozen in % **not exceeding 5%** of the cost of equipment/utilities including its warranty period, for the period mentioned against each equipment/utilities in section II.

(xviii) PMC shall ensure that for all contractors supplying equipments/utilities are declaring on their letter head (duly sealed & signed) that "**We accept usage of third party consumables unconditionally without any threat of invalidation of warranty or CMC".**

In case of Proprietary equipments, the cost of consumables for **initial 02 years** should be included with the cost of equipment with warranty and the cost of consumables for **further 03 years** needs to be frozen at the time of purchase. Accordingly, the seller shall supply the required consumables for initial 02 years (covering warranty period) free of cost. Further, the seller should furnish a list of required consumables for 03 years post warranty along with the price bid separately. The supply order for consumables for 03 years, post warranty shall be placed by AIIMS Raipur as and when required, at the discretion of AIIMS Raipur at the frozen cost of consumables.

B) Construction stage

The PMC shall

(i) Assemble a multi-disciplinary construction management team, along with their contact details and clearly demarcated responsibilities under intimation to AIIMS, Raipur.

(ii) Provide Construction Management Services from the start of construction up to commissioning and handing over of the entire project to AIIMS, Raipur in operable condition. It shall also be the responsibility of the PMC to liaise and coordinate with various Contractors, Sub-Contractors and agencies for smooth execution of the project.

(iii) Provide day-to-day supervision of work to ensure proper quality, workmanship and timely completion of the work by employing adequate number and level of engineers and supervisory staff as per sound engineering practice. PMC will also depute its financial officers as a part of the project team for vetting / checking of the bills.

(iv) Conduct site meetings and coordination meetings with AIIMS, Raipur for timely completion of the project.

(v) Carry out quality assurance checks, adhere to maintain quality reports and submit to AIIMS, Raipur.

(vi) PMC shall ensure handing over As-built drawings to AIIMS, Raipur after every step of construction. PMC shall check all the measurements recorded in the Measurement books by contractor at site with respect to approved drawings and certify the accuracy.

(vii) PMC shall make all correspondence with the contractors for proper execution of work as per vetted GFC drawings submitted by PMC and issued by the Institute.

(viii) Provide effective coordination between various Agencies working at the site to ensure timely availability of inputs required for un-interrupted construction at site, all in accordance with the agreed program of activities.

(ix) Be fully responsible for getting the project work executed as per drawings and specifications and should also ensure completion of job, quality expectations, within sanctioned cost outlay of the project. In case of any deviation from the preliminary approved drawings during execution of the works, the same shall be referred to AIIMS, Raipur for approval.

(x) Rendering timely advice for implementing special measures for effecting cost / quality / time benefit for the project.

(xi) Provide quick clarifications to designs or details that have been provided vide drawings or immediate solutions to the clarifications sought by the Vendors / Contractors.

(xii) Drawing up and putting in place a Quality Assurance Plan as well as a Safety Assurance Plan along with an appropriate and efficient mechanism to ensure their effective implementation at site.

(xiii) Checking and Certification of Contractors running and final bills of the works executed for the purpose of payment to be released to the Construction Agencies.

(xiv) Provide contract administration services of all Contract Agreements and devising a suitable dispute-resolution mechanism to facilitate a quick and amicable settlement of disputes, if any.

(xv) PMC shall also appraise AIIMS, Raipur of the progress and / or activities of the project on monthly basis or even lesser intervals if required, by preparing and submitting monitoring reports. The reports shall inter-alia include the following but not limited to:

a. Name of different Contractors involved

b. Scope of Works of Contractors

c. Date of Commencement / Date of Completion: Scheduled and Actual

d. Major Issues and Decisions Pending including Drawings Constraints (if any), Site constraints (if any), Equipment Constraints (if any).

e. Status of Progress of Work using PERT chart or any latest technique

f. Areas of Concern

g. List of Registers Maintained by PMC

h. List of Equipment Mobilized at Site

j. Materials/Personnel at Site

k. Status of Payment to Contractor

l. List of Equipments/stores received and accepted along with certification by the JRI committee.

m. List of Equipments/stores pending for delivery

n. Photographs of the Site

(xvi) For all Contracts awarded by PMC, the payment will be released by PMC, and AIIMS, Raipur shall not be responsible and liable for any liabilities and defaults of PMC with any other third party.

(xvii) PMC shall be fully responsible for dealing with Arbitration cases, if any, for Contracts entered between various agencies. PMC will prepare claims / counter claims, attend hearings and provide all necessary assistance to the Arbitrator till final settlement of disputes which shall be as per PMC's own procedures. It shall be the sole responsibility of PMC to defend the case provided there is no fault / negligence / delay on the part of AIIMS,

Raipur on any matter whatsoever for which dispute has arisen between two parties. The cost of arbitration / litigation if any, arising out of any arbitration due to reasons attributable to PMC shall be borne by PMC.

(xviii) The PMC will ensure safety of structure by taking necessary precautions by not allowing excessive construction load and shall avoid such other factors which will endanger the safety of structure during construction.

(xix) The PMC has to ensure that the construction activities do not adversely affects/hinders the Institute routine working. Also to ensure that the construction site Roads are not damaged & creates obstacles for users of Institute.

(xx) The location of Plant/machineries/materials dumping yards/hutments etc. are to be properly planned for construction sites and located at the site approved by the Institute /Client in writing.

(xxi) The security of the materials etc. during storage and construction will be sole responsibility of the PMC / contractor and Institute shall not provide any security at the construction sites etc.

C) Post Construction Stage

During this phase, the activities are likely to be as under:

(i) Ensuring of installation & commissioning of all utilities, equipments and acceptance of the same by AIIMS, Raipur.

(ii) Provide project completion report which shall contain all technical and financial information of the project. PMC shall ensure proper commissioning and handing over for occupation for the completed project in all respect.

(iii) Provide adequate engineering, post construction activity and supervisory staff for day to day inspection / monitoring of works during Defect Liability Period of 12 months and issue of timely notice to vendors / agencies for rectification of defects, if observed.

(iv) Any other activity that is deemed necessary for project execution and completion, but not included in the above-mentioned list shall form part of scope of work of the PMC and the decision of AIIMS, Raipur shall be final in this regard.

(v) The PMC will submit all Civil & Plumbing, Electrical & Fire Fighting, AC & R (HVAC), MGPS, etc. final drawings (As built drawings) in 3-sets after completion of the project to the Institute.

(vi) The PMC will also handover the Guaranty/Warranty related documents for the accessories, equipment, appliances, fixtures, fittings etc. installed/fixed in the completed projects.

(vii) The PMC will hand over a certified copy of the material testing report, design mix report, any other tests carried out as per the relevant IS code provisions, Safety certificate for the completed projects to the Institute.

(viii) The PMC shall also be technically, legally and financially responsible for the work executed/ executing that has been entrusted by the Institute to PMC.

(ix) PMC shall complete construction management of contract with the **Works Contractor** till the expiry of the Defect Liability Period and releasing of payment of final dues to the Contractor by PMC by issuing satisfactory completion certificate after intimation to Institute and giving **two months'** time for Institute comments.

(x) PMC shall collect and deliver to the Institute, Guarantee Bonds executed by the Contractor for Specialized items of Works (if applicable as per the provisions of contract between contractor and the PMC) such as Waterproofing of structures, termite Proofing of Structures, flooring work, plinth protection, etc. which involve the Defect Liability extending well beyond the normal Defect Liability Period of structures.

3.2 Obligation of AIIMS, Raipur

 To provide assistance to the extent possible to PMC for executing the project with respect to technical specification, drawing, expertise available in-house.

 To provide assistance to the extent possible to PMC for obtaining electrical and water connections.

 AIIMS, Raipur shall hand over the site to PMC for execution of the work.

 To release payment to PMC as per Payment Schedule.

Payments to PMC

(i) The Institute shall release payment to the PMC, as per physical & financial progress of the work and availability of funds with the Institute.

S. No.	Amount to be released	Base value	Remarks
A.	20% (Inclusive of GST)	Total Project Cost (Inclusive of GST)	It shall be paid by AIIMS Raipur after submission of Good for Construction (GFC) Civil & Plumbing, Electrical & Fire Fighting, AC & R and MGPS drawings (07 sets), PERT charts/ timeline/milestone based planning and award of tenders of all works &

			equipments.
B.	30% (Inclusive of GST)	Total Project Cost (Inclusive of GST)	It shall be paid by AIIMS Raipur after completion of all Civil & Plumbing, Electrical & Fire Fighting, AC & R and MGPS works, handing over As Built Drawings, and after acceptance of the same by AIIMS Raipur.
C.	20% (Inclusive of GST)	Total Project Cost (Inclusive of GST)	It shall be paid by AIIMS Raipur after completion of supply all Equipments in good condition.
D.	10% (Inclusive of GST)	Total Project Cost (Inclusive of GST)	It shall be paid by AIIMS Raipur after completion of Installation, Commissioning & Acceptance of all Equipments by AIIMS Raipur.
E.	10% (Inclusive of GST)	Total Project Cost (Inclusive of GST)	It shall be paid by AIIMS Raipur after handing over the facility in operable condition and furnishing of Taking Over Certificate (TOC) by AIIMS, Raipur.
F.	**Balance payment (10%) shall be released after successful & satisfactory completion of Defect Liability Period of One year.**		

Note:- PMC will submit the demand note for release of funds well in advance to enable Institute to process the proposal of the payment and make the payment to the Project Management Consultant to avoid any delay in executing the work due to nonpayment.

(ii) Copies of the final bills, after release of payment to the Contractor for each Contract between PMC and Contractor, will be supplied to AIIMS, Raipur for reference and record along with all test certificates, guaranty and warranty cards of equipment, systems, tools etc.

(iii) PMC shall ensure obtaining of **Security Deposit/Retention Money** for **Five Percentage (05%)** of each running bill (periodic/ interim payment) until final acceptance. The contractor may, at his option, replace the retention amount with an unconditional BG from a bank acceptable to the PMC at the following stages: (In case BGs are obtained, these should be in name of The Director, AIIMS, Raipur)

C) After the amount reaches half the value of the limit of retention money; and

D) After the amount reaches the maximum limit of retention money. One-half of the retention money (or BG, which replaced retention money) shall be released on the issue of the taking-over certificate; if the Taking Over Certificates (TOCs) are issued in parts, then in such proportions as AIIMS, Raipur may determine, having regard to the value of such part or section. The other half of the retention money (or BG, which replaced the retention

money) shall be released upon expiration of 365 days after the DLP of the works or final payment, whichever is earlier, on certification by AIIMS, Raipur. In the event of different defect liability periods being applicable to different sections or parts, the expiration of defect liability period shall be the latest of such periods.

3.4 Expected Time of Completion of the Project

(i) The Project Management Consultant will get the entire project completed within a period of **12 months** (03 months for pre-construction activities and 09 months for Execution & handing over).

(ii) The time shall commence from the tenth day of the award of the work to PMC.

(iii) The PMC will be required to prepare the detailed time schedule based on the total completion period of 12 months for the project. The entire project will be divided into activities and events and CPM/ PERT charts will be prepared by PMC. Monitoring on monthly basis will be carried out by them in consultation with AIIMS, Raipur.

(iv) The PMC will suggest and recommend remedial measures in order to get the project completed within the stipulated time and cost.

(v) A tentative schedule is tabulated below:-

Sr. No.	Description of Works	Time Duration in Months										Total
1	Drawing, Design , Estimation and Tendering process	3										
2	Dismentaling whereever required & Creation of partition along with all the drawing & design approval of concerned contractor by the AIIMS Raipur		1									
3	Plumbing, Electrical Conduiting,DB installation, Earthing , HVAC Ducting, laying of copper piping and power cable between indoor and outdoor.			1.5								
4	Fixing of Wall & floor tiles where required along with laying of MGPS pipe line and electrical & LAN wiring				1							
5	Installation of AHU and outdoor units, False ceiling ,Nursing call system, Switch Sockets with LAN points					1						
6	Installation of furniture,HPL doors, Lighting, Insulation & Accoustic of HVAC equipments along with AHU Rooms.						1					
7	Installation of Moduler OT							1.5				
8	Testing & commisiioning of all the equipments along Moduler OT								0.5			
9	All finishing works,Painting & Epoxy flooring									1		
10	ITC of all medical equipments										0.5	12

SECTION – IV

General Terms & Conditions

GENERAL TERMS & CONDITIONS OF CONTRACT

ARTICLE 1 DEFINITIONS

For the purpose of this CONTRACT, unless otherwise specified or repugnant to the subject or context, the following terms shall be deemed to have the following meanings:

1.1 PROJECT MANAGEMENT CONSULTANT (PMC) shall mean ---------- having its registered office at _____.'' who shall be the implementing/executing agency for designing & construction work by following its own procedures. PARTIES shall mean OWNER and PMC each one individually referred to as PARTY.

1.2 "AUTHORISED REPRESENTATIVE" shall mean the representatives of "OWNER" and/or PMC as the case may be who are duly empowered and authorized by their respective organisations to act for and on their behalf.

1.3 "CONTRACT" shall mean this CONTRACT including all Annexure hereto and all documents herein attached and amendments which the PARTIES may hereafter agree in writing to be made to this CONTRACT.

1.4 "CONTRACTOR" shall mean the agency(ies) appointed by PMC for executing various civil & services works.

1.5 "DATE OF ACCEPTANCE" shall mean the date on which OWNER confirms written acceptance of PMC's SERVICES after having completed them in all respects.

1.6 "OWNER" shall mean AIIMS, Raipur

1.7 "PARTIES" shall mean OWNER and PMC each one individually referred to as PARTY.

1.8 "PROJECT "shall mean setting of a Dedicated Burn Unit with enhanced intensive Care on Turn-Key basis

1.9 "TOTAL PROJECT COST" means the final cost of the project (All Inclusive).

1.10 "SERVICES" shall mean the responsibilities to be discharged by PMC for fulfilling its obligations under this CONTRACT.

ARTICLE 2 COMPLETION OF PROJECT

2.1 When all civil & services works are completed, equipments installed & aligned, PMC shall notify the OWNER in writing that the project has been completed in all respect.

2.1.1 Upon notification of completion of works in writing by PMC, AIIMS, Raipur will inspect the same prior to the occupancy. Any defects observed shall be informed to the PMC at the earliest. The PMC shall ensure the rectification of such defects prior to the occupancy and also during DLP at no extra cost to the owner.

2.1.2 The date of acceptance by AIIMS, Raipur as aforesaid shall be deemed to be the date of completion of the Project (hereinafter called COMPLETION) for the purpose of this CONTRACT. The responsibility of the PMC includes defect liability period.

ARTICLE 3 CHANGES AND ADDITIONS IN PMC SCOPE OF SERVICES

OWNER shall have the right to request PMC in writing to make any changes, modifications, deletions and/or additions to PMC scope of SERVICES. PMC shall consider such written requests and will work out the estimate of price and time adjustment on account of such changes, modifications, deletion and/or additions sought by OWNER. Unless PMC receives written authority from OWNER with agreement on variation in prices and time schedule, PMC will not be obliged to proceed with any such variation in the scope of SERVICES.

ARTICLE 4 DRAWINGS AND DOCUMENTS

OWNER shall use all drawings, designs, specifications and documents prepared by PMC for the purposes of operation and maintenance of the facility.

ARTICLE 5 GUARANTEES AND LIABILITIES

5.1 PMC guarantees that the SERVICES as specified/described under the scope of PMC in this CONTRACT, and technical documents to be developed by PMC shall be in accordance with sound and established engineering practices, using International Standards and Indian Codes and Regulations, (government) wherever applicable, for the purpose(s) specified, free from defects and suitable for respective uses intended.

5.2 LIMITATION OF LIABILITY

Except where otherwise specified in PMC scope of work PMC's liability under this CONTRACT for all guarantees or warranties of whatsoever shall be limited to getting the things rectified without additional fee to the owner.

5.3 Nothing in the CONTRACT shall be construed to have imposed any liabilities on PMC, for defects or otherwise, if PMC has to depend on data, process, technical information and/or by others on behalf of OWNER and if any part or parts thereof are found to be misleading, inaccurate incomplete, unsatisfactory or deficient for any reason or circumstance beyond PMC's control.

ARTICLE 6 GOVERNMENT LEVIES

The Total Project cost arrived by adding the amount of the least Percentage of the Total Estimated Cost and the Total estimated cost shall be inclusive of statutory levies imposed up to the date of submission of bid by PMC, from time-to-time. However, PMC shall be reimbursed any other future tax including revision in the GST imposed by central/ state Govt. subject to submission of proof of payment of such taxes.

ARTICLE 7 INSURANCE

7.1 Insurance by PMC at its own cost: Workman's compensation insurance, covering all employees of PMC for statutory benefits as set out and required by local law in the area of operation or area in which PMC may become legally obliged to pay benefits for bodily injury or death.

ARTICLE 8 INDEMNITY

8.1 PMC shall hold harmless and indemnify the OWNER, against any claims or liability because of personal injury including death of any employee of PMC and arising out of or in consequence of the performance of this CONTRACT.

8.2 OWNER shall not be responsible for any loss or damage to property of any kind belonging to PMC or its employees, servants or agents.

8.3 OWNER shall hold harmless and indemnify PMC against any claim or liability arising in respect of:

8.3.1 Injury to or death of OWNER's employees, agents and contractors other than engaged for building related activities excluding only employees of PMC, howsoever caused; and

8.3.2 Loss of or damage to the property of OWNER, OWNER's employees, agents and contractors other than engaged for building related activities except those belonging to PMC or its employees.

ARTICLE 9 SECRECY

9.1 OWNER shall not disclose to any third party, any Technical Information, data, design, drawings, plans, specifications, etc. received from PMC at any time either in whole or in part, shall use all reasonable efforts to preserve the secrecy of the above Technical Information and shall not use the same for any purpose other than the construction, maintenance and operation of the services. However, the disclosure of such Technical Information to Government of India, State Govt. or allied statutory authorities shall not be deemed to be a violation of the Secrecy understanding contained herein.

9.2 The above undertakings shall not, however, extend to any such Technical Information which:

9.2.1 Is in the possession of OWNER prior to receipt of the same, directly or indirectly from PMC.

9.2.2 Is received by OWNER without any secrecy obligation.

9.2.3 Is or has become part of the public knowledge since receipt of the same, directly or indirectly from PMC. PMC shall likewise have secrecy obligations in respect of confidential information provided by OWNER.

ARTICLE 10 FORCE MAJEURE

10.1 Any delay in or failure of performance by a PARTY shall not constitute default hereunder or give rise to any claims for damages against said PARTY if and to the extent caused by reasons which are beyond the control of the said PARTY, including but not limited to acts of God, strikes or other concerted acts of workman, power cuts, fires, floods, explosions, riots, war (declared or undeclared), rebellion, sabotage, extra ordinary severe weather, civil commotion and criminal acts of third parties.

10.2 Both PARTIES shall keep a record of the circumstances referred above, which are responsible for causing delays in the execution of the project.

10.3 If the execution of the project is likely to be delayed by or as the result of one or more of the circumstances referred to in Article 10.1 hereof, OWNER and PMC shall discuss the situation with a view to find the means to minimize the impact and effect of such circumstances and to reduce the costs and expenses which the PARTIES or either of them may incur.

ARTICLE 11 WAIVER

No failure or delay by either PARTY in enforcing any right, remedy, obligations or liability in terms of the CONTRACT shall be deemed to be a waiver of such right, remedy, obligation or liability, as the case may be, by the PARTY and notwithstanding such failure or delay, the PARTY shall be entitled at any time to enforce such right, remedy obligation or liability, as the case may be.

ARTICLE 12 ARBITRATION

If any dispute or difference of any kind what so ever shall arise between the parties in connection with or arising out of this agreement or out of the breach termination or invalidity of this agreement thereof, the parties shall resolve them by resorting to the following :

12.1 Party shall attempt within a period of 30 days after receipt of notice by the other party of the existence of a dispute to settle such dispute in the first instance by mutual discussions between the parties.

12.2 If the dispute cannot be settled by mutual discussion within 30 days as provided herein, the dispute shall be resolved by recourse to Arbitration to be held in accordance with the provisions of the Indian Arbitration and conciliation Act, 1996 or any statutory modification or re-enactment thereof.

12.3 Each party shall appoint one arbitrator and the two arbitrators shall appoint the third arbitrator who shall act as the Presiding Officer These three shall constitute arbitral tribunal. The decision of this arbitral tribunal shall be final and binding on both the parties. The parties to the dispute shall share equally the cost of arbitration intimated by the arbitral tribunal.

12.4 The arbitration proceeding shall be conducted in the English/ Hindi Language and shall be held at AIIMS, Raipur.

ARTICLE 13 TERMINATION

13.1.1 Both parties, at any time, should deem it necessary to do so, terminate this CONTRACT forthwith by giving one month’s written notice to the other.

13.1.2 In the event of termination pursuant to Article 13 hereof, PMC shall carry out any reasonable instructions of OWNER in connection with such termination.

13.1.3 Termination of this CONTRACT shall not relieve either PARTY of their obligations imposed by this CONTRACT with respect to the SERVICES performed by either PARTY prior to such termination.

13.1.4 In the event of termination pursuant to Article 13 hereof, OWNER shall pay to PMC for all the SERVICES performed by PMC up to the stage of work executed immediately before termination.

In case due to any circumstances, the OWNER decides to curtail the scope of work or totally abandon the work, the payment to the PMC would be made up to the stage of work executed by them immediately before taking such a decision.

ARTICLE 14 PATENTS

14.1 PMC shall, subject to the limitations contained in this Article, indemnify and hold OWNER harmless from all costs, damages, and expenses arising out of any claim, action or suit brought against OWNER by third parties in respect of any infringement of any patent or registered design or any similar rights resulting from the use of any technical information, data or process or design belonging to PMC and furnished to OWNER, as long as it is used by PMC for the purposes of this project only.

14.2 Similarly OWNER shall indemnify and hold PMC harmless from all costs, damages and expenses arising out of any claim, action or suit brought against OWNER by third parties in respect of any infringement of any patent or registered design or any similar rights resulting from the use of any information furnished to PMC by OWNER or by others on behalf of OWNER, as long as it is used by PMC or the purposes of this project only.

ARTICLE 15 ASSIGNABILITY

The CONTRACT, benefits, and obligations thereof shall be strictly personal to the PARTIES and shall not on any account be assignable or transferable by the PARTIES except with the prior agreement in writing.

ARTICLE 16 CESSATION OF PMC'S RESPONSIBILITIES

Upon PMC Guarantees and Liabilities referred to in this CONTRACT having been or being deemed to have been satisfied upon expiry of **twelve months** from the DATE OF ACCEPTANCE, and settlement of arbitrations/disputes (if any) whichever occurs later, all responsibilities of PMC under this CONTRACT shall be deemed to have been discharged.

ARTICLE 17 SUBLETTING/OUTSOURCING

PMC shall not assign, sublet, or outsource any activity within its scope of work without the written approval of AIIMS Raipur.

ARTICLE 18 Site Office of PMC

On account of specified time frame for the completion of project, the PMC shall have its office at the project site at its own cost till the end of completion of PMC's responsibilities.

ARTICLE 19 Liquidated damages for delays & Non-Performance by PMC

If the PMC is not able to get the works executed in the stipulated time frame from all the Vendors/agencies, which results in overall delay in completion of the project then it shall amount to non-performance by PMC. In the event of AIIMS, Raipur having opinion that PMC is not performing in accordance with the condition laid down in the agreement, then AIMS, Raipur shall impose damages @ 0.5 percent (%) per week of total Project Cost or such smaller amount as it deems fit subject to maximum of 10% of the total Project Cost payable to PMC. The decision of Director, AIIMS, Raipur will be final & binding on this account.

ARTICLE 20 Additions and alterations:

i. The AIIMS Raipur shall have the right to request in writing for additions, alterations, modifications or deletions in the design and drawing of any part of the work and to request in writing for additional work in connection therewith and the PMC shall comply with such requests without any extra cost.

ii. However, if the AIIMS Raipur deviates substantially from the original scheme which involves substantial change in the scope of work, the **PMC shall be paid for such additional scope of work on the percentage excess or less (As per the finalized Percentage) added or subtracted from the gross amount of the bill basis unless such changes, alterations are due to PMC's own omissions and/or discrepancies.** The decision of the AIIMS Raipur in this respect shall be final.

iii. PMC shall not make any material deviation, alteration, addition to or omission from the work shown and described in this document without the prior written consent of AIIMS Raipur.

ARTICLE 21 Performance Guarantee

i) To ensure due performance of the contract, performance security [or Performance Bank Guarantee (PBG)] shall be obtained from the successful bidder awarded the

contract. Performance security should be for an amount of **five (5) per cent (%)** of the Total Project Cost.

ii) Performance security may be furnished in the form of Insurance Surety Bond, account payee demand draft, fixed deposit receipt from a commercial bank, bank guarantee issued/ confirmed from any of the commercial bank in India or online payment in an acceptable form, safeguarding the AIIMS, Raipur interest in all respects.

ARTICLE 22 Integrity pact

Bidders must submit the Integrity Pact duly filled, sealed, and signed at all designated places, including signature blocks and witness signatures. On-submission or incomplete execution (missing seal/signature/witness signatures) shall result in rejection of the bid without further evaluation. No recall or resubmission of the Integrity Pact shall be permitted after bid submission.

SECTION – V

Pro-forma for Financial Bid & other mandatory forms/letters

Financial Bid (To be uploaded in BoQ format)

Sl. No.	Item Description Unit	Base Value (Total Estimated Cost) (A) In Rs.	Percentage Quoted (B)	Total Project Cost (All inclusive including GST and Consutancy charges) (c) = (A+/- AxB/100) in Rs.
01	Total Project Cost (All inclusive including GST and Consutancy Charges) for setting of a dedicated burn unit with enhanced intensive care on Turn-Key basis at AIIMS Raipur	8,04,24,087 (Inclusive of GST and consultancy Charges)	____%	

Note:- Only Column B shall be filled by the bidders. If the Percentage filled decimal values, then only two digits after decimal shall be considered.

INTEGRITY PACT FORWARDING LETTER
(To be typed submitted in the letter Head of the Company/firm of Bidder)

To,

The Executive Director
AIIMS Raipur

Sub: Forwarding of duly completed IP

Dear Sir,

I / We acknowledge that AIIMS Raipur is committed to follow the principles thereof as enumerated in the Integrity Pact enclosed with the tender/bid document.

I / We agree that the NIT is an invitation to offer made on the condition that I/We will sign the enclosed integrity Pact, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process.

I/We acknowledge that THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE of this condition of the NIT.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Pact while submitting the tender/bid, AIIMS Raipur shall have unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid is accordance with terms and conditions of the tender/bid.

Authorised Representative of Bidder

Signature:

Name :

Address :

Annexure -1

TENDER ACCEPTANCE LETTER
(To be given on Company Letter Head)

Date:

To,

The Executive Director
AIIMS Raipur

Sub: Acceptance of Terms & Conditions of the NIT

Dear Sir,

1. I/ We have downloaded / obtained the tender document(s) for the above-mentioned 'Tender/Work' from the web site(s) namely: https://eprocure.gov.in as per advertisement, given in the above mentioned website(s).

2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents of all pages (including all documents like annexure(s), schedule(s), etc.,), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.

3. The corrigendum(s) issued from time to time by department/ organization too has also been taken into consideration, while submitting this acceptance letter.

4. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.

5. I / We do hereby declare that we have submitted all the documents required for Eligibility Criteria.

6. I / We certify that all information furnished by me/us is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then department/ organization shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy.

Signature of authorized person

Full Name & Designation:

Company's Seal

Annexure -2

DECLARATION BY AUTHORISED SIGNATORY OF BIDDER
(To be typed submitted in the letter Head of the Company/firm of Bidder)

To,

The Executive Director
AIIMS Raipur

Sub: Declaration by Authorized Signatory
Ref: AIIMS Raipur Tender No. _____

Dear Sir,

I/We hereby certify that all the information and data furnished by me with regard to the above Tender Specification are true and complete to the best of my knowledge.

I have gone through the specifications, condition, stipulations and other pertinent issues till date, and agree to comply with the requirements and Intent of the specification.

I further certify that I am authorized to represent on behalf of my company/firm for the above-mentioned tender and a valid Power of Attorney/Authorization letter to this effect is also enclosed.

Yours faithfully,

(Signature, Date & Seal of Authorized Signatory of the Bidder)

Date:

Enclosed: Power of Attorney/Authorization letter

Annexure -3

DECLARATION CONFIRMING KNOWLEDGE ABOUT SITE CONDITIONS
(To be typed submitted in the letter Head of the Company/firm of Bidder)

To,

The Executive Director
AIIMS Raipur

Sub: Declaration confirming knowledge about Site conditions
Ref: AIIMS Raipur Tender No. _____

Dear Sir,

I/We hereby declare and confirm that we have visited the site as referred in AIIMS Tender Specifications and acquired full knowledge and information about the site conditions including Wage structure, Industrial Climate, the Law & Order and other conditions prevalent at and around the site.

We further confirm that the above information is true and correct and we shall not raise any claim of any nature due to lack of knowledge of Site conditions.

I/We, hereby offer to carry out works as detailed in above-mentioned Tender Specification, in accordance with Terms & Conditions thereof.

Yours faithfully,

(Signature, Date & Seal of Authorized Representative of the Bidder)

Annexure -4

NO DEVIATION CERTIFICATE
(To be typed submitted in the letter Head of the Company/firm of Bidder)

To,

The Executive Director
AIIMS Raipur

Sub: No deviation certificate
Ref: AIIMS Raipur Tender No. _____

Dear Sir,

We hereby confirm that we have not changed/modified/materially altered any of the tender documents as downloaded from the website/issued by AIIMS and in case of such observance at any stage, it shall be treated as null and void and this tender shall deemed to be withdrawn.

We also hereby confirm that we have neither set any Terms and Conditions and nor have we taken any deviation from the Tender conditions together with other references applicable for the above referred NIT/Tender Specification.

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid reference.

Thanking you,

(Signature, Date & Seal of Authorized Signatory of the Bidder)

Annexure -5

DECLARATION
(TO BE TYPED ON NON-JUDICIAL STAMP PAPER OF RS.10/-)

To,

The Executive Director
AIIMS Raipur

Ref: AIIMS Raipur Tender No. _____

Dear Sir,

1. We have carefully read and understood all the terms and conditions of the tender and hereby convey our acceptance to the same.

2. The information / documents furnished along with the above offer are true and authentic to the best of my knowledge and belief. We are well aware of the fact that furnishing of any false information / fabricated document would lead to rejection of our tender/Order at any stage besides liabilities towards prosecution under appropriate law.

3. We agree to bear penalty imposed upon us due to non-performance or deficiencies or delay in work or poor workmanship in the services on our part.

4. We have no objection, if enquiries are made about the work listed by us.

5. We declare that we are not (i) barred/blacklisted/put on Holiday in preceding 05 calendar years and (ii) Having our Contract discontinued / terminated / scope curtailed due to non-performance /restricted due to non-performance / unsatisfactory performance of assigned projects by any State Government (SG) or Union Territory (UT) or Government of India (GoI), or any of the agencies of SG/UT/GoI in preceding 05 calendar years and (iii) Having pending investigations in any assigned projects,

6. We have not been found guilty by a court of law in India for fraud, dishonesty or moral turpitude.

7. We agree that the decision of AIIMS in selection of Bidders will be final and binding to us.

Signature of authorized person

Date:

Full Name & Designation

Place:

Company's Seal:

Annexure -6

Contact Details for seeking clarifications, if any
(To be filled by Bidders on their letter head)

1	Name of the Firm	:
2	Office Address	:
3	Name of the person	:
4	Designation	:
5	E-mail ID	:
6	Contact Number	:

SECTION – VI

Technical Specification of Equipments

1. Hospital ICU/HDU Bed (Fully automatic ICU cots with Mattress) – Qty – 06 Nos.

USE: The bed is used for critical/high dependent care of patient in ICU/HDU/Postoperative ward. They are used in intensive care unit for comfort of patient avoiding complications related to prolonged recumbent positions. They also facilitate comfortable transfer to and from emergency/OT/Ward etc. and also aid in carrying point of care process

BED FRAME:

i. Bed frame should be made of medical grade mild steel square /rectangular pipes of adequate cross section and thickness to provide high structural strength and stability and should be epoxy coating.
ii. Bed should make of high quality metal of 16G (ERW) or better. Both ICU bed frame and top should be rustproof. Should have facility of easily cleaning /maintenance of ICU bed
iii. All the MS parts should be pre-treated/shot blasted/ dip tank and powder coated with antimicrobial and thermosetting epoxy polyester (50-60 micron or better for medical ICU beds) to control the bacterial growth. It should have good finish, rust & corrosion proof; pre treatment process should remove impurities for a long lasting life (of at least 10years) scratch resistant and bacteriostatic coating.
iv. The powder coating/Powder coating with nano technology on the bed frame should be compliant ROHS-lead free specifications (with test report or IEC 62321 or better).
v. The bed top/back rest should be X-ray Lucent made of 6mm thick (or better for medical beds) compact laminate with X ray cassette hold mechanism The facility should allow to insert X-ray cassettes from either sides and both ends.
vi. Bed should have 4 nos. of bumpers given at the four corners with excellent shock absorbing property to safeguard against patient collision injury.
vii. Bed should be provided with telescopic infusion pole (4 nos.) with SS 304 made (or better for medical beds) chromium plated, in each corner of bed with 2 hooks and 2 With 4 hooks. infusion pole should have broad base for mounting.
viii. Bed should have adequate sets of steps less DC actuator (electro-mechanical) for elevations of backrest, knee gatch and bed high-low functions/various patient positioning, they should be built of latest IP (54 or better) rating.
ix. Bed should be fully automatic with remote control, and back rest up down, knee rest up down, tredelenburg and reverse tredelenburg, hi-low position can be controlled through noiseless electro-mechanical actuators operated by soft touch control panel.
x. should be supplied with 1 no of foam mattress.

MATTRESS PLATFORM:-

i. Blow moulded ABS plastic four sectional fully removable mattress platforms.
ii. Fully articulated mattress support platform with independent back and knee movement, up/down adjustments, trendelenburg and reverse trendelenburg positioning.
iii. Should be sturdy/resilient all flat avoiding any slash, air permeable rust less and washable for easy cleaning.
iv. Safe working load of mattress support platform should be at least 200 kg or more.
v. Stopper or mattress non slipping mechanism at corner to avoid mattress slip.
vi. Length of Mattress support platform support at least 1900 ± 50 mm.
vii. Width of Mattress support platform support at least 900± 10%mm.
viii. Overall length 220-230 cm ± 5 cm and width 100-110 cm or conforming to above parameters.

HEAD AND FOOT BOARD

i. Head & foot end panels Should be D/B -type shapes with Blow moulded ABS (acrylonitrile-butadiene styrene) plastic/Polypropylene with antibacterial additive &should be easily removable. It should be curved & free from sharp corners. The board locking device should allow for easy unrestricted shifting of patient in emergency and locking mechanism and should be sturdy enough to avoid any shaking or loosening of boards when in place.

SIDE board/panel

i. Bed should have four blow moulded ABS plastic/polypropylene entrapment free split side boards/panel with patient remotes on inner side of head end side board/ panel, attendant remotes on outer side of head end side board/panel and nursing remotes on outer Sides of foot end side boards/panel.
ii. Should be split type, 4 Nos. articulating side board/panel.
iii. Should have a moulded operating drop down mechanism for safe operation and avoid hurt to patient and user/operator.
iv. Side board/panel work with safe drop-down mechanism and completely collapsible to be stored under
the mattress support platform to maintain zero transfer gaps for shifting of patient from bed to bed/trolley.
v. They may be 4 sections and of robust/resilient material and gap between back and foot section side panel/board should be less to avoid patient entrapment when they are raised.
vi. The central control breaking lever should be at rear end of the bed for ease of operation
vii. Should be powered by both power and built-in rechargeable battery with LED indicator.
viii. The height of side panel/board from sleeping deck without mattress should 350mm or better.
ix. Provision for hanging urine-bag and drains (4 on either side) and for patient restraints.

POWERED MOVEMENTS

i. Motorised retracting and elevating backrest movement of 60 degree or more with angle indicator.
ii. Motorised retracting and elevating thigh section movement of 20 degree or more with angle indicator with knee gatch of 0 -40 degree(+/-2 degree) Or better
iii. Motorized cardiac and beach chair position.
iv. Motorised height adjustment from 425mm ± 50 mm to 775mm ± 50 mm
v. Motorised reverse trendlenburg & trendlenburg from 0 degree to + 12 degree or more.
Angle indicator for backrest, thigh and tilt angles.
Integrated weighing scale preferred.
Weight zeroing facility to initialize bed and add-on accessory's weight before placing patient on the bed
Must have a load bearing capacity or safe working load of more than 200 kg.
Function lockout switches on nursing remote.

SAFETY AND ELECTRIC CONTROL SYSTEM

i. Actuator controller: should be powered both by power and built-in rechargeable battery with LED indicator.
ii. Bed should have adequate sets of steps less DC actuator of latest technology for elevations of backrest, knee gatch and bed high-low functions should be built of latest IP (54 or better) rating.

BATTERY:

i. Low voltage and overload charging protection.
ii. In standby mode (powered by back up battery without the mains supply) bed operation can last at least 2 days.
iii. In operating mode (powered by back up battery without the mains supply) bed can be operated full circle operation at least 10 full cycles (full circle operation).

Casters:

i. The bed should have Four (4) casters of 125/150mm (5 / 6 inch). It should be made of antistatic medical grade material /polyester and should be dust proof, covered for longer life. They should be noiseless rust less and allow easy steering of bed.
ii. The bed is equipped with central control castor brake system for locking the position of bed with braking mechanism available at each castor. The castors should be quality certified BIS/EN(latest)
iii. Maximum weight of ICU Bed in Kg Approximate 150.

iv. Corner buffer or bumpers are there in bed to protect patient from collision

CONTROL PANEL

Both patient /attendant control hand set and embedded control panel on inside and outside of side panel/boards.

EMBEDDED CONTROL PANEL (INTERNAL SIDE)

i. On both internal sides of side boards/panel for independent operating functions backrest, knee gatch, bed hi-low and auto settee adjustments

EMBEDDED CONTROL PANEL (EXTERNAL SIDE)

i. On both external sides of side boards/pane/ with no wiring exposed for independent operating functions backrest, knee gatch, bed hi-low and auto settee adjustments.".
ii. CPR: One touches Motorised CPR function to flatten the entire angle and enable bed to reach lowest height for effective CPR
iii. CPR facility should also have additional non powered mechanical release. with a single handed release at head end on both sides
iv. Must qualify IEC60601-2-52, or IS 13450 (or better and latest standard), compliant.
It should conform to latest electromagnetic safety standard (IEC60601-1-2, IEC606011) of Hospital bed
v. It should have zero entrapment zones and safe for user and patient (IEC60601-4 for safety.
vi. Should have power supply single phase 210-230V 50 Ht. compatible Indian plug and conform to Indian electrical supply.
vii. All electrical parts should have liquid Ingress protection as per IPX4 or better.
Both patient /attendant control hand set and embedded control panel on inside and outside of side panel/boards.

ICU BED FOAM MATTRESS

a. Highly resilient. bio density>foam. loses density heel zone for gentle support to heels and ankles.
b. Easy to clean and extremely hygienic.
c. The dimensions of mattress shall be specified with tolerance to fit the size of the mattress support platform.
d. The bed should be provided with 120mm (+/- 20mm) thick PU foam mattress which should be covered by material. IS waterproof. name retardant, vapour & X ray permeable. The zip & stitches for the mattress cover should be concealed. Should be compatible with supplied bed and close fitting.
e. **Material of foam**
i. Density: Upper layer (head-sacrum spine- of adequate thickness) 40-50 kg/cubic metre and heel/lower layer 30kg/cubic metre. (of adequate thickness)
ii. Antibacterial: should be with antimicrobial agent incorporated into all components that cause inhibition of microbial growth —bacteria and fungi etc.
iii. Disinfection of cover for example by 1000 ppm hypochlorite solution or COVID sterilely.
iv. Therapeutic weight limit for mattress in kg- 160 +/-5%
v. BIS and/or USFDA and/or European certified/ EC Declaration form EU representative
Certification:
i. Electrical safety standards EN60601-2-52, IEC60601-l or better with safety gadgets like resettable over current breaker.
ii. Degree of protection: TYPE B. against electric shock Class Il with functional earth Degree of protection of ingress of fluids: IPX0
iii. Must qualify IS 13450 standards. It should conform to latest electromagnetic safety standard (IEC60601-1-2, IEC60601-1) of hospital bed
iv. It should have zero entrapment zones and safe for user and patient (IEC60601-4 for safety & ISO 14971, ISO 13485:2016) for medical devices.
v. Should have power supply single phase 210-230V 50 Hz, compatible Indian plug and conform to Indian electrical supply.

vi. All electrical parts should have liquid ingress protection as per IPX4 or better

vii. USFDA and/or European CE/EC Declaration form EU representative and/or BIS Approved.

viii. **Comprehensive Warranty – 02 years**, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 02 years, valid for 26 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

ix. **Consumables:-** The buyer intends to buy consumables from open market at competitive pricing and hence, the seller should declare the following para on their letter head, duly signed & sealed:-

We accept usage of third party consumables unconditionally without any threat of invalidation of warranty or CMC.

x. Bed and mattress (foam) should be supplied, quoted and bid by the same manufacturer/ bidder; and so also its warranty/maintenance terms be done by the same bidder.

xi. Company should have office/Service centre in Chattisgarh.

2. Over Bed Table – Qty 14 Nos.

A. Over bed table should be made of rectangular frame work mounted on 5cm caster
B. Size should be 30'' x 16'' laminated/Membrane
C. Pressed top adjustable by Pneumatic gas spring
D. Finish should be pre-treated and epoxy powder coated body
E. Table top cab be raised or lowered in infinite position between approx. 28'' – 45''
F. Table top can be raised with slightest upward pressure.
G. Device is produced by ISO certified manufacturer.
H. User manual with trouble shooting guidance, in English
I. Training and installation will be provided at end-user site.
J. It should have compliance with international safety standards (IEC/ISO/CE/FDA/BIS).
K. 01 years warranty from the date of installation

3. WARD BED WITH MATTRESS – Qty 08 Nos.

General Description

Bed, hospital, standard, with mattress.

Intended use:

Patient bed for rest/sleep in hospitals. Manually-operated.

Technical Specifications:

Standard hospital bed, 2 sections.

Mounted on 4 swivel castors, heavy duty, 2 with brake.

Transfer bars connect lower distal portions of the 2 foot-end and the 2 head-end legs, providing maximal structural strength.

Protective bumpers at all four corners.

Bed-ends, finished with panels.

Two section platform, epoxy-painted steel mesh with side supports to immobilize the mattress.

Mattress cover removable via side zipper.

Manually operated crank allows adjusting the backrest to 45-70 degree.

Crank-handle folds away underneath the bed.

Material:

High resistance to corrosion (tropical environment).

Frame: epoxy coated tubular steel.

Mattress: high density polyurethane foam, density is 28-30 kg/m3.

Cover: plastic, flexible, highly tear resistant, anti-static, flame-retardant, non-absorbing, waterproof and cleanable with hospital-grade disinfection products.

Castor frame/bracket: steel or nylon.

Caster brake: total-lock type (wheel and rotational lock).

Caster wheel: single wheel, mold-on type, non-hooded (for easy maintenance).

Wheel bearing: sealed bearing in the swivel and the wheel.

Swivel is ball-bearing.

Dimensions:
Sleeping surface: 200 x (80-90cm) (l x w).
Height of surface, without mattress, fixed: 50 cm.
Mattress: 11-12 cm (h).
Bed frame: (5-7) x 3 cm (h x w) 1.7-2mm (thickness).
Leg frame: 3 cm x 2.0 mm (thickness).
Swivel castor wheels: 3 x 12.5 cm (w*diameter).
Carrying capacity: min. 150 kg
Knockdown construction
Supplied with:
1 x complete set of tools required for assembly
1 x fitting mattress with cover
List of accessories and partsDetailed step-by-step instructions for assembly and safe use, text-freepictorial based (i.e. line-drawings only)

Other requirements

1. All the firms are required to submit their catalogue along with tender/quotation clearly marking the quoted item and No. with a highlighter.

2. All firms should have supplied the quoted instruments to AIIMS/ PGI/ JIPMERJ SGPGI or other central institutes and should submit a certificate of satisfactory working from the concerned Govt. Hospital.

3. Product quality certificate required.

4. It should have compliance with international safety standards (IEC/ISO/CE/FDA/BIS).

5. **Comprehensive Warranty** – **05 years**, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 05 years, valid for 62 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

4. Side Table – Qty 14 Nos.

This table should be tailored for use next to hospital beds, providing essential functionality for patient care. It allows patients to keep essential items within reach and offers a surface for medical equipment or personal belongings.
Features
One Drawer and Storage Unit: The drawer should provide secure and organized storage for smaller items, while the storage compartment should offer ample space for personal belongings or medical supplies.
Dimensions

- **Height:** 825 mm
- **Length:** 490 mm
- **Breadth:** 410 mm

These dimensions should ensure that the table is appropriately sized for use in hospital rooms, making it neither too large to be cumbersome nor too small to be useful. The height should be optimal for easy access while the patient is lying in bed.
Specifications
Material:

- **Constructed from 0.6mm thick mild steel CRCA:** The table should be made from cold-rolled close-annealed steel.

Top Surface:

- **Stainless Steel (SS) Metal Top:** The top surface of the table should be made from stainless steel, making it easy to clean and maintain

Mobility:

- **Equipped with Castor Wheels:** The table should include wheels, allowing for effortless movement and positioning. This mobility feature should ensure that the table can be easily relocated as needed without requiring heavy lifting, thus ensuring convenience for healthcare staff.

Finish:

- **Powder Coating Finish:** The table should be coated with a powder finish, providing smooth and clean appearance and adding an extra layer of protection to the mild steel.

- should have compliance with international safety standards (IEC/ISO/CE/FDA/BIS)
- 01 years warranty from the date of installation

5. High End ICU Ventilator – Qty 07 Nos.

1. Should be a microprocessor-controlled ventilator with minimum of 12''colour TFT touch screen integrated graphics and easy to use rotary knob operation providing support to Adult/pediatric and field upgradable to infant/neonatal patient range having capacity to dial tidal volume from 2ml to 2000ml.
2. Ventilator Should be mounted on original imported stand manufactured by the OEM having castor wheels for easy portability.
3. Should have Air supply through integrated ultra-quiet turbine or external compressor of the same manufacturer.
4. Should be based on reliable flow measuring technology with proximal flow sensor (flow sensor at patient end) which ensures the most precise flow and pressure measurements for better patient assessment.
5. Ventilator should have modes available for both invasive & non-invasive ventilation.
6. Following Ventilation modes should be available as standard in the ventilator : Assist / Control Mandatory Ventilation (A/C): SIMV; CPAP; Pressure Support Ventilation (PSV); APRV, DuoPAP / BiPAP / Bilevel-VG / BiPhasic; , Combination / Dual modes like PRVC / APV or VAPS/automode/autoflow; Apnea Back -up and any other mode for safe ventilations offering both volume guarantee & lung protective strategies like volume limit etc.
7. Non-Invasive modes like NIV & NIV-ST should be available as standard
8. Machine should have Advanced close loop control mode with minimum input setting with optimal breathing pattern based on lowest work of breathing & minimum force of breathing principle or equivalent mode like PAV / NAVA / SMARTCARE / ASV
9. All the ventilators should be capable to upgrade to Advanced mode: Advance close loop ventilation solution, Automatic/Manual Adjustment of Oxygenation and Ventilation covering all applications (Different Lung Mechanics) from intubation through extubation With Lung Protective Ventilation like Hypo Ventilation, Hyper Ventilation, High/Low Tidal Volume, Minimum Alveolar Ventilation, Dead Space Ventilation Etc should include automatic SBT.
10. It should have enhanced Invasive as well as Non-Invasive Ventilation (NIV / NPPV) modes with facility of effective leak compensation.
11. All the Ventilator should be supplied with disposable, USB operated, independent of flow nebuliser. It should follow vibrating mesh technology to produce <4 micronuniform particle size to avoid drug wastage.

CONTROLS:

12. Tidal volume should be minimum 20 ml to 2000 ml in Volume Control Mode or better

13. If upgraded to Neonatal Mode, Ventilator should be able to dial tidal volume from 2 – 2000ml or better
14. Respiratory rates 4 to 150 BPM or better,
15. Peak flow setting from 0 to 240 lpm or better
16. Trigger sensitivity:- Flow 1 to 20 l/min
17. PEEP : 0 to 35 cm H2O or better.
18. FiO2 : 21 to 100 %.
19. I:E ratio 1:9 to 4:1 (DuoPAP/BiPAP/BiPhasic 1:599 to 149:1)
20. Inspiratory time (TI) 1 to 12 s
21. Pressure control 3 to 60 cmH2O, added to PEEP/CPAP
22. Pressure support 0 to 60 cmH2O, added to PEEP/CPAP
23. Pressure ramp 0 to 2000 ms
24. Expiratory trigger sensitivity (ETS) 5 to 80 % of inspiratory peak flow
25. Should have facility of Manual breath, O2 enrichment, standby, screen-lock, apnea backup ventilation, inspiratory hold, screen-shot, suctioning tool, dimmable screen, configurable Quickstart-Settings, start -up over body height and IBW
26. Facility to permanently deactivate the O2 alarm, if the O2 cell is depleted or defective.
27. Should have inbuilt integrated nebuliser synchronized with inspiratory cycle.

ALARMS

28. low/high Minute Volume , Low/high Pressure, Low/high tidal volume, low/ high Rate , Apnea time, low/high oxygen, Oxygen concentration, disconnect ion, loss of PEEP, exhalation obstruction, flow sensor, power supply, batteries, gas supply

DISPLAY:

29. Should have Real-time visualization of the lungs with representations of tidal volume, lung compliance, resistance, and patient activity
30. Should have Visual representation of ventilator dependency, grouped into oxygenation, CO2 elimination, and patient activity
31. Should have Graphic display of target and actual parameters for tidal volume, frequency, pressure, and minute ventilation
32. Should have Real-time waveforms Paw, Flow, Volume, P trachea (Optional)
33. Should have facility to show at least 1 Loops: P-V, V-Flow, P-Flow
34. Should have either graphical or tabular trends for minimum of 1h, 6h, 12h, 24h, 72 hours with 1 minute resolution.
35. Should display 41 monitoring parameters including Exhaled tidal volume, Breath rate, I:E ratio, FiO2, Peak Pressure, Mean Airway Pressure, etc.
36. Source input pressure of oxygen: 40 to 60 psi. Facility to also input low pressure O2 is also desirable.
37. Every Ventilator should be supplied with the following accessories from same OEM:
    - HME filter: 50 nos.
    - Disposable breathing circuit with flow sensors with each ventilator – 10 nos.
    - Expiratory valve assembly 5 units autoclavable.
    - Oxygen hose – 1no
    - Power cable – 1 no
    - Support Arm – 1 No.
    - Trolley – 1 No.

38. 4 units of Servo controlled Humidifier with 10 units Disposable Humidifier circuit to be provided with every 10 units of ventilator.
39. The servo-controlled humidifier should come with display of minimum 3 inches. The patient circuit of the humidifier should be externally coiled to minimize condensation. The humidifier should have US FDA and European CE certifications. It should have humidification mode like Invasive, Noninvasive &amp, High flow.
40. The complete unit including the ventilator, internal turbine / external compressor & Humidifier must be mounted on an original imported pedestal stand from the same manufacturer for easy movement of the complete ventilator within hospital.

41. Internal rechargeable battery with minimum operating time of at least 3 hours for complete Ventilator including inbuilt or external compressor should be supplied.
42. Complete ventilator including internal turbine / external compressor & Humidifier should be covered under warranty of 5 years.
43. Should have Interface connectors USB, RS-232 as standard.
44. Demonstration of the equipment is a must.
45. Price for all the consumables should be quoted along with the tender. The rates shall be freezed for next 5 years.

CERTIFICATIONS – TO BE ENCLOSED WITH TECHNICAL BID.

46. Ventilator including internal turbine / external compressor & Humidifier should be BIS / "European CE & US FDA" approved and manufacturer should be ISO (latest) certified.
47. Ventilator Should be IEC 60601-1:2005/A1:2012, IEC 60601-1-2:2007, ISO 80601-2-12:2011 + Cor.:2011, CAN/CSA-C22.2 No. 60601-1:14, ANSI/AAMI ES60601-1:2005/(R)2012 certified.
48. Ventilator Should have IP21 protection.

H. Other requirements

49. **Comprehensive Warranty** – **02 years**, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 02 years, valid for 26 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

50. Comprehensive Maintenance Contract (CMC) **-08 years post completion of warranty of 02 years.** CMC shall include preventive maintenance including calibration as per technical/ service /operational manual of the manufacturer, service charges and spares, after satisfactory completion of Warranty. Cost of consumables shall not be included in CMC. Further there will be **98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period**.

51. **Consumables:-** The cost of consumables for **initial 02 years** should be included with the cost of equipment with warranty and the cost of consumables for **further 03 years** needs to be frozen at the time of purchase. Accordingly, the seller shall supply the required consumables for initial 02 years (covering warranty period) free of cost. Further, the seller should furnish a list of required consumables for 03 years post warranty along with the price bid seperately. The supply order for consumables for 03 years, post warranty shall be placed by AIIMS Raipur as and when required, at the discretion of AIIMS Raipur at the frozen cost of consumables.

52. All the firms are required to submit their catalogue along with tender/quotation clearly marking the quoted item and No. with a highlighter.

53. All firms should have supplied the quoted instruments to AIIMS/ PGI/ JIPMERJ SGPGI or other central institutes and should submit a certificate of satisfactory working from the concerned Govt. Hospital.

54. Product quality certificate required.

55. The principal manufacturer must have direct presence/approved service center in India.

56. Demonstration of equipment and training to be provided after completing supplies and installation before acceptance

06. MULTIPARA MONITOR (HIGH END) for HDU/ICU – Qty 07 Nos.

1 The monitor system should be US FDA/BIS/Eur CE (with four digit notified body number certificate) approved for Quality assurance for complete equipment along with its modules and the certificate must be attached.

2 The monitor should be Integrated modular monitor (display 19 +/- 4 inch touch screen) / medical grade PC based monitor and measure Parameters like 5 Lead ECG, Resp, 2 Temp (central and peripheral), SpO2 for low perfusion (masimo), NIBP and 2 IBP standard in all monitors. It should have a facility to upgrade / attach compatible etCO2 (mainstream) modules.

In cases of PC Based, operating monitors must be certified medical grade inclusive of warranty and CMC. The medical grade PC must be 12th Generation Intel® Core™ i5-12400T Processor (P-cores 1.80 GHz up to 4.20 GHz) DIMM Memory -8 GB DDR4-3200MHz (SODIMM) Storage Selection 500 GB 7200rpm HDD 2.5" SATA 7mm. System must run 24X7 without any interruption continuously in the medical environment . The display (diagonally minimum 21 inches) of the PC must be robust and can be operated through Mouse/touch screen. It must have a wireless connectivity facility, independent display and control with web browsing facility.

3 The monitor must be Upgradable to a minimal invasive continuous cardiac output, 4 Invasive Blood Pressure recordings, Pleth Variability Index, continuous and noninvasive measurement of the carbon monoxide levels in arterial blood, Oxygen Content, noninvasive and continuous monitoring levels of methemoglobin, noninvasive Respiration Rate monitoring from the Pleth whenever required and attach the details.

4 Quoting bidder must submit valid authorization from OEM (of the technology) mentioning all below - the SpO2 technology, Pleth Variability Index, continuous and noninvasive measurement of the carbon monoxide levels in arterial blood, Oxygen Content, noninvasive and continuous monitoring levels of methemoglobin, noninvasive Respiration Rate monitoring from the Pleth for their OEM.

5 The monitor should display all 12 ECG waveforms on display simultaneously with the help of minimum 5 lead ECG cables.

6 The monitor should have a flexible display mode for various monitoring requirements with minimum 8 waveforms of selectable parameters. Bigger font of numeric should also be available.

7 There should be an alarm limit setting for every parameter

8 It should have standby mode for the temporary leaving of the patient.

9 The monitor should be capable of connecting to the central monitoring network.

10 There should be a complete ST segment Arrhythmia analysis with Pace detection facility.

11 It should come with a rechargeable battery with 1-3 hours of battery backup.

12 There should be 2 channels for temperature measurement (1 central and 1 peripheral)

13 It should have a USB port and connectivity provision with a central nursing station.

14 Patient Monitor supplier firm should also have the capability of providing electronic charting solutions for upgrading the ICU with Electronic Charting by integration with equipment like Ventilators and Syringe Pumps etc. Details of the item and Price for per bed ICU integration with electronic charting to be quoted separately, if required.

15 Each monitor to be supplied with following:
a. 5 Lead ECG cable - 2 No.
b. Adult /Pediatric/Neonatal SpO2 probe – 2 no each
c. NIBP cuffs for Adult (M, L, XL, XXL), Pediatrics and neonates – 2 no each (from all sizes of adult as mentioned)
d. Temp Probe – 2 Nos. (1 central i.e. esophageal and 1 peripheral i.e. skin)
e. IBP connection cable – 2 Nos.
f. IBP Disposable Pressure Transducers – 10 Nos
g. accessories to the wall mount of the monitor system should be supplied with it.

16 The firm should provide the details and installation rate of etCO2 module (compatible) with the model the firm is bidding for.

17 The number of etCO2 modules will be given separately.

18 The firm should also provide the details and installation rate of the central nursing station for the monitors supplied.

19. **Comprehensive Warranty** – **02 years**, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 02 years, valid for 26 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

20. Comprehensive Maintenance Contract (CMC) **-08 years post completion of warranty of 02 years.** CMC shall include preventive maintenance including calibration as per technical/ service /operational manual of the manufacturer, service charges and spares, after satisfactory completion of Warranty. Cost of consumables shall not be included in CMC. Further there will be **98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period**.

21. **Consumables:-** The buyer intends to buy consumables from open market at competitive pricing and hence, the seller should declare the following para on their letter head, duly signed & sealed:-

We accept usage of third party consumables unconditionally without any threat of invalidation of warranty or CMC.

7. ECG MACHINE – 12 Chaneels – Qty - 01

- ECG Machine is primary equipment to record ECG Signal in various configurations. 12Channel with interpretation is required for recording and analyzing the waveforms with special software.
- **Operational Requirements**
- The ECG Machine should be able to acquire all 12 Leads simultaneously and interpret them. Should be easily portable & should be provided with Handle.
- **Technical Specifications.**
- Should acquire simultaneous 12 lead ECG for both adult and pediatric patients.
- Should have Real time Color LCD display of ECG waveforms
- **Sensitivity:** 10 mm/mV ±2%,
- **Common mode rejection ratio:** >=100 dB,
- **Frequency response:** 0.05 Hz to 150 Hz ,
- **Electrode check:** Every electrode except N(RF),
- **Waveform status detection:** Electrode detachment
- Should have Artifact, Hum, Drift& EMG suppression filters
- Should have an in built storage memory of at least 400 ECGs with easy transfer by optional data card
- Should display all 12 lead waveforms on the screen for quality assessment checks prior to print
- Should have interpretation facility of the amplitudes, durations and morphologies of ECG waveforms and associated rhythm for adult and pediatric patients. (Approx, 200 Clinical Findings and 5 Judgmental categories)
- **Analysis sampling rate:** 500 samples/s, **Acquisition sampling rate:** 8000 samples/sec
- Should have facility of 1 minute cascaded ECG recording &rhythm recording for 1 or 3 ch
- Should have auto extended recording when arrhythmia is detected

- Should have alphanumeric Keyboard for patient ID Entry (virtual or hard keys)
- Should have High resolution 210 mm size printer using thermal sensitive paper.
- Should have battery capacity of at least 30 minutes of continuous rhythm recording on single charge.
- **Recording data:** Program type, version, date and time, paper speed, sensitivity, lead name, filter, hospital name, patient information (ID number, name, sex, age), timing mark, event mark, electrode detachment, Noise.
- Display: Color LCD/TFT adjustable Screen of 7" size.
- Weight – approx2.5Kg
- Easy data transfer by wired & Wireless LAN(option)
- Wired/Wireless connectivity to Network printer
- Should be upgradeable to 18 lead ECG, Bar code reader, DICOM Compatibility
- **System Configuration Accessories, spares and consumables**
- ECG Machine with Interpretation facility-01
- 12 Lead Patient Cable-01
- Chest Electrodes Adult-(set of six) -01 sets.
- Chest Electrodes Pediatric-(set of six) -01 sets
- Thermal Paper210 mm Size – 1 unit
- **Environmental factors**
- Shall meet IEC-60601-2-51-"Essential performance of recording and analyzing single channel and multichannel electrocardiographs"
- **Protection against electric shock, Defibrillator & Harmful ingress of water.**
- **Power supply**
- Power input to be 220-240VAC, 50Nz fitted with Indian pit
- Should be BIS / USFDA /CE approved product
- Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements and IEC-60601-2-25 Safety of Electrocardiograms.
- **Documentation**

  User manual in English

  Mild steel tubular framework mounted on four swivel castors, 200 mm (8") diameter without brake.

  X-ray permeable removable stretcher top in two sections made of pre-laminated board supported on tubular frame.
- should have compliance with international safety standards (IEC/ISO/CE/FDA/BIS)
- **Comprehensive Warranty** – **03 years**, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 03 years, valid for 38 months** from the date of acceptance is obtained from the suppler in name of The

Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

8. BLOOD GAS ANALYZER MACHINE – Qty – 01 No.

- Analyzer should able to provide following measured Parameters pCO_2 ,pO_2, Na^+, K^+ , pH and calculated parameters like HCO_3^-, Base excess, TCO_2.
- Analyzer should able to have following additional parameters: Cl-, iCa, Glu, BUN, Hct, Creatinine, Lacate, Co-oximetry, Magnesium.
- Analyser should have LCD screen.
- Analyzer should have inbuilt printer.
- The Analyzer should be small and portable and easy to carry.
- Should be Bench top blood gas analyser.
- Sample Volume should be less than 200 micro litre.
- Fully automatic, upgradable fast electrolyte and blood gas analyzer.
- Ambient working temperature 15 to 30 Degrees.
- Storage of reagents/cartridge at Room Temperature
- Fast analysis time 60-90 seconds.
- System should be based on liquid / gas calibration technology.
- Should have automatic calibration
- Should have automatic sample feeding, automatic detection and self-diagnosis of faults.
- Should have easy operation, fast analysis speed and high accuracy.
- System should not be a cartridge-based system i.e. electrodes should not be in the cartridge
- system.
- Whole blood (arterial, venous, mixed venous and capillary); pleural fluid; dialysate†
- Should work on whole blood and should have syringe and capillary sampling.
- Data Storage for at least 100 patients.
- System should be supplied complete with all standard accessories, electrodes & start up kits.
- Suitable UPS with at least 30 min backup.
- Onboard life of reagents should not be less than one month.
- Built in auto Quality control facility.
- Analyzer should have large touch screen facility and optional for keyboard operation
- Power input: 220 VAC + 10%, 50 Hz and a suitable one hr. back up UPS should be
- supplied along with analyzer. There should be storage facility of data in case of power
- failure.
- Maintenance free electrode and the unit should be upgradeability.
- Should have local service facility
- Sample Type: Whole blood, Dialysate fluid

- Calibration: a) Automatic or on Demand b) Long Expiry Reagent and Gas canister are available
- Accessories: Recharger/Downloader and Printer Should be supplied with compatible trolley (SS). Should be supply compatible UPS (600VA).

Term & condition

1. should have compliance with international safety standards (IEC/ISO/CE/FDA/BIS)

2. **Comprehensive Warranty** – **02 years**, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 02 years, valid for 26 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

3. Comprehensive Maintenance Contract (CMC) **-08 years post completion of warranty of 02 years.** CMC shall include preventive maintenance including calibration as per technical/ service /operational manual of the manufacturer, service charges and spares, after satisfactory completion of Warranty. Cost of consumables shall not be included in CMC. Further there will be **98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period**.

4. **Consumables:-** The buyer intends to buy consumables from open market at competitive pricing and hence, the seller should declare the following para on their letter head, duly signed & sealed:-

   We accept usage of third party consumables unconditionally without any threat of invalidation of warranty or CMC.
5. should have compliance all consumables including reagents/cartridge/Paper/Electrode per samples for all tests for first two years (365x20x2) -14600 samples

6. The Principal Manufacturer must have direct Presence/approved service center In India

7. Should be USFDA certified.

9. TECHNICAL SPECIFICATION OF DEFIBRILLATOR WITH ECG – Qty – 01 No.

DESCRIPTION of Function

• Defibrillator is required for reviving the heart functions by providing selected quantum of electrical shocks with facility for monitoring vital parameters.

Operational Requirements

• Defibrillator should be Bi-Phasic, light weight and latest model
• Should monitor vital parameters and display them
• Should print the ECG on thermal recorders.
• Should work on Manual and Automated external defibrillation (AED) mode. Manual selection up to 360 J.
• Should be capable of doing synchronized & synchronized cardio version
• Can be operated from mains as well as battery
• Should have defibrillator testing facility

Technical Specifications

• Should be a Low Energy Biphasic defibrillator monitor with Recorder, having capability to arrest all arrhythmia within a maximum energy of 360 Joules
• Should monitor ECG through paddles, pads and monitoring electrodes and Defibrillate through pads and paddles.

• Should have Automatic or manual Leads witching to see patient ECG through paddles or leads
• Should measure and compensate for chest impedance for arrange of 25 to 150 ohms
• Should have a built in 50mm strip printer/thermal recorder
• Should have charging time of less than 3seconds for maximum energy. Charging indicator should be there.
• Should have a battery capable of usage for at least 60 minutes or 30 discharges
• Should be capable of delivering energy in increments of 1-2 joules up 30J and increments of max. 50J thereafter)Morrow increments preferable)
• Should have bright electroluminescent display for viewing messages and ECG waveform of 4 seconds
• Should have external & internal paddles with paddles contact indicator –for good paddle contact. Single Adult and pediatric paddles should be available.
• Should have event summary facility for recording and printing at least 250 events and 50 waveforms.
• Should be capable of printing Reports on Event summary, configuration, self test, battery capacity etc
• Should have facility for self test/check be for usage and setup function
• Should have SP02 and NIBP integrated facility
• Should have user friendly color coded operation

System Configuration Accessories, Spares and Consumables

• Defibrillator – 01
• Paddles, Adult & neonatal – 01 each
• Patient cable – 01
• ECG Rolls – 5
• Disposable pads -5nos
• Complete set of ECG Leads -02

Environmental factors

• The unit shall be capable of operating continuously in ambient temperature of 10 -50^0 C and relative humidity of 15-90%
• The unit shall be capable of being stored continuously in ambient temperature of 0-50^0C and relative humidity of 15-90%
• Shall meet IEC-60601-1-2: 2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.

Power Supply

• Power input to be 220-240VAC, 50Hz. Power cable should be fitted with Indian plug and adapter.
• Reset table over current breaker shall be fitted for protection
• Should have a Rechargeable Battery capable of usage for atleast 90 minutes or 30 discharges.

Standards, Safety and Training

• Should be USFDA and European CE Approval Product
• Manufacturer should have ISO certification for quality standards
• Electrical safety conforms to standards for electrical safetyIEC-60601-1 General Requirements and IEC60601-2-25 Safety of Electrocardiograms. (OR EQUIVALENT BIS Standard) Drop Test- Withstands 1meter drop to any edge, corner or surface.
• Should conform to international test protocol on exposure to shock forces and to vibration forces.
• Should meet IEC529 Level-2(IP2X)for enclosure protection solid foreign object ingress.
• Should meet IEC529 Level3(IP3X)(spraying water)for enclosure protection, water ingress.
• Should have local service facility. The service provider should have the necessary equipments recommended by the manufacturer to carryout preventive maintenance test as per guidelines provided in the service/maintenance manual.
• Additional Terms &conditions:-

8. **Comprehensive Warranty** – **02 years**, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should

ensure that PSD for the amount of **5% of the equipment cost including warranty of 02 years, valid for 26 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

9. Comprehensive Maintenance Contract (CMC) -**08 years post completion of warranty of 02 years.** CMC shall include preventive maintenance including calibration as per technical/ service /operational manual of the manufacturer, service charges and spares, after satisfactory completion of Warranty. Cost of consumables shall not be included in CMC. Further there will be **98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period**.

10. **Consumables:**- The buyer intends to buy consumables from open market at competitive pricing and hence, the seller should declare the following para on their letter head, duly signed &sealed:-

    We accept usage of third party consumables unconditionally without any threat of invalidation of warranty or CMC.

10. SYRINGE PUMP - Qty 12 Nos.

- Microprocessor controlled pump capable of propulsion of fluids accurately.
  - Syringe compatibility: The pump should work with different brands of syringes and is able to accept syringes with volumes of 10 ml to 50 ml.
  - There should be automatic detection of syringe size.
  - It should be equipped for detecting correct fixing of syringe.
  - Flow rate should be adjustable from 0.1 ml/hr to 1500 ml/hr with bolus infusion facility
  - Flow rate should be adjustable in increments of 0.1 ml/hr.
  - Flow rate adjustment should not involve stopping of the existing infusion rate.
  - The accuracy of flow rate should be 1.8%.
  - The flow rate should be displayed in ml/ hr. Delivery rate can be calculated automatically by presetting of volume & time. It should also accept values in mg/ hr, µg/ hr, mg/ kg/ hr etc. 10. It should be able to deliver bolus dose in automatic/ manual mode.
  - Pump should have commonly used drugs library of 40 or more.
  - It should work on 200 – 240 VAC, 50 – 60 Hz source and in-built rechargeable battery. 13. Internal battery life should be minimum of 6 hrs.
  - Pump should have colour display.
  - The following audio and visual alarms should be incorporated:
    - Main changeover to battery indication
    - Occlusion pressure alarm
    - Near empty syringe
    - Low battery
    - Standby alarm
  - There should be a method of automatic bolus volume reduction after occlusion release.

- The pump should be waterproof so that fluid should not enter inside the pump in case of accidental spillage.
- The syringe pumps should be capable of standalone functioning as well as being fixed on a frame/platform/stand.
- The pump should be CE certified or US FDA approved.
- 01 Year warranty date of installation

11. INFUSION PUMP – Qty 04 Nos.

- Volumetric Infusion pumps
- Pump should have a maximum flow rate of 1200 ml/hr
- Min flow rate should be 1 ml/hr
- Should have facility for online titration
- Should have long battery life (5.5 Hrs at 125 ml/Hr)
- Should be small and portable
- Should accept all standard IV sets
- Should have facility for infusing Rate /Volume and Volume /Time
- Pump should display Rate, Volume infused and Volume to be Infused
- Pump should have 2 programme step infusion for Continuous rate and time adjustments
- Pump should be of Piston pumping mechanism
- Flow rate accuracy should be plus or Minus 5% of set rate
- The infusion pumps should be capable of standalone functioning as well as being fixed on a frame/platform/stand.
- Should have an additional LED Display for distant Viewing
- The pump should be CE certified or US FDA approved.
- Additional Terms &conditions:-

11. **Comprehensive Warranty** – **03 years**, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 03 years, valid for 38 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

12. Pump Suction Portable – Qty 02 Nos.

Operation Type	Electrically Operated
Construction	Portable compact unit provided with carrying handle
Housing material	ABS Plastic Molded
Sturdy housing, which is easy to clean and having storage for the suction hose	Yes
Solid base to keep the unit stationery while in use	Yes
Provided with Built-in vacuum gauge & vacuum regulator	Yes
Vacuum gauge type	Bourdon tube type
Vacuum gauge size	7.5 cm dia, 0 to 760mmHg
Pre-selected suction levels with quick-selection buttons for easy operation	No
Provided with castor wheels attached at the bottom	Yes
Number of castor wheels	2
Antistatic castors	Yes
Suction capacity (Ltrs /min)	31 to 40 Ltrs /min
Maximum vacuum (mm of Hg)	700 or more
Number of jars	2
Jar capacity (ml)	2000 ml
Graduated markings on the jar(s)	Yes
Jar(s) material	Polysulfone (PSU) Jar
Jar(s) type	Reusable & Autoclavable
Changeover valve to shift the vacuum from one jar to other with a single move	No
Integrated Foot on/off switch and vacuum regulator for hands free operation	Yes
Non-collapsible suction tubing provided	Yes
Suction tubing material (Medical grade)	Transparent Silicon

Suction tubing Inner Diameter (mm)	10 mm
Suction tubing length (Mtr)	≥1
Trap Filter with inbuilt overflow protection	Yes
Hydrophobic Bacterial Filter (Autocleavable /Reusable)	Yes
Noise Level at maximum vacuum in dB	≤ 45
Overflow protection system	Mechanical
Weight of equipment	≤ 6 kg
Drive Unit	50
Noise level [dB(A)]*	≤ 40
Vacuum Regulator	Membrane
On/off button	Clean Touch Technology
Over flow protection device	Safety set with mechanical over flow protection
Automatic voltage defection	Yes
Power cable length (m)	5 or more
Transport/ Storage temperature relative humidity	-20 to + 55°C/20-95%
Disposable collection System	Disposable suction liners and reusable PC jars offer a hygienic, Simple handling and Efficient fluid management, Size 1.5 and 2.5 liters
Range of tubing	Made from Silicone or PVC
Reusable Collection system	Auto clavable PSU Jars and lids collect secretions easilu and economically sizes : 1,2,3 and 5 litres
Foot vacuum regulator for hands - free vacuum regulation	Can be attached to standard medela suction jars
Range of filers	To protect the pump from overflow, to protect the environment from bacteria or to neutralizeodour
On /Off foot switch	Cable length of 3.5m.
Warranty	03**years**, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 03 years, valid for 38 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.
Certified	CE certified or US FDA approved

13. **SPOT LAMP (EMERGENCY LIGHT – Qty 02 Nos.**

- The spot lamp is required for doing minor clinical procedure in an emergency, ICU or BICU, OT, O&G
- etc., environment and the system can be moved from place to place.
- It should be flexible gooseneck arm with height adjustable pole.

- Cast full stainless steel base stand with anti-static swivel 5 castors wheels.
- The light combination singe spot Halogen bulb or LED lights.
- Light intensity of the spot lamp should be 25,000K LUX at 0.5m distance.
- Colour rendering index R (a) minimum 95
- Diameter of light field size should be minimum 9cm
- Halogen light should be 12V/35watts or 12V/20watts or equivalent LED lights also ok
- Lamp life should be minimum 1000 hrs
- Power consumption of the spot lamp should be <40w
- Dynamically balanced mobile spotlight with well-balanced spring arm up & down movement.

- Power input requirement should be 220-240V/50 Hz fitted with Indian plug
- Device is produced by ISO certified manufacturer
- Device should have ISI safety certificate from approved agency
- Device is safety certified according to BIS/CE/FDA or equivalent
- User manual with trouble shooting guidance, in English
- Installation and Training at end-user site.
- **03 years Comprehensive Warranty**, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 03 years, valid for 38 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

14. Laryngoscope Set **– Qty 03 Nos.**

Parts	**Parameter**	**Technical data**
Display	Size	(3.5" full View)
	Monitor	LCD
	Resolution Ratio	640*480(RGB)
	Illumination	LED
Laryngoscope Blade camera include	Resolution Ratio	66*
	Field Angle	≤800LUX
	Illumination	
Battery	Type	Rechargeable Lithium Battery
	Long working time	≥200minitues
	Voltage	3.7V
	Capacity	3200mAh
	Charging times	More than 300 times
	Charging times	Less than 8 Hrs.
Power adapter	Charging port	Micro USB
	Input	100-250V,50Hz
	Output	5V,1000mA

Transport/Storage Circumstance	Temperature	-10°C~+ -45° C
	Humidity	≤93%
	AP	500hPa to 1060hPa
Working circumstance	Temperature	5°C~ +40°C
	Humidity	30%~85%
	AP	700hPa to 1030hPa
Unique Anti – Function	Get anti-fog function upon powering without preheating	
Weight	376 gm (light weight, portable, comfortable	
Photo/ Video function	One button on the handle for snapping; 4GB internal memory card USB cable to connect with external monitor and uploading	
Handle	Comfortable ergonomic short handle design	
Accessories	Video laryngoscope main unit	
	USB cable and power adapter	
	Carry case	
	All Blades Sizes: Pediatric/ adult	
Warranty	03 Years, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 03 years, valid for 38 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.	
Certificate	CE certified or US FDA approved	

15. TECHNICAL SPECIFICATIONS RESUSCITATOR – Qty – 05 Nos.

Hand-operated in a horizontal position.
Portable, self-inflating, reusable.
The resuscitator is autoclavable between 121°C and 134°C.
The capacity of the self-inflating ventilation bag is 1,600ml.
Ventilation can be done with ambient air or with oxygen.
The resuscitator has an inlet valve with a nipple for oxygen tubing.
The resuscitator is equipped with a non-rebreather valve.
An oxygen reservoir bag should be included with a capacity between 2 ,500-2,600ml.
Resuscitator can be fully disassembled, is easy to clean, disinfect, and reassemble.
All parts manufactured from high-strength, long-life materials that require no special maintenance or storage conditions.
The resuscitator, all its components and accessories are free of natural rubber latex.
The (intake, non-rebreather) valves and nipple are made from polycarbonate/polysulfone or any other material fulfilling ISO 10651-4 or equivalent.
The masks made are of silicone rubber or any material fulfilling ISO 10993-1:2018; ISO 10993-5:2009; ISO 10993-10:2013 or equivalents.
The self-inflating ventilation bag is made of transparent or translucent silicone rubber or any material fulfilling ISO 10651-4 or equivalent.

SUPPLIED WITH
Instructions for assembly, use and maintenance in English, French and Spanish.
1 x Plastic protective pouch which can contain the full set.
1 x Masks, transparent, for large child/teenager, face shape type, size 4.
1 x Mask, transparent, for adult, face shape type, size 5.
1 x Mask, transparent, for large adult, face shape type, size 6.
1 x Oxygen reservoir bag with a capacity between: 2,500-2,600ml.

1 x Required tubing and other accessories to connect to oxygen supply.
1 x Airway Guedel, size 2, diameter 70 mm.
1 x Airway Guedel, size 3, diameter 80 mm.
1 x Airway Guedel, size 4, diameter 90 mm.
Warranty of 01 Year.

16. SPECIFICATIONS FOR HYDRO - SURGERY DEBRIDEMENT SYSTEM – Qty 01

1. It should be a hydro surgery powered device for surgical wound debridement, producing high pressure jet of sterile saline, creating venturi effect at the distal tip of the hand piece.
2. it should have a graduated power console (10 settings) for hydro surgery debridement providing cutting, removal of necrotic tissue (200 – 240 volts)
3. Front panel layout have : illuminated power switch, foot switch socket, power Display, foot switch connection indicator, system fault indicator power control illuminated green light ring , pump interface, key lock symbol.
4. Foot switch pedal should be light weight(Not more than 3lbs) and should have long cord (15 ft)
5. It should have single use angled hand piece (15 degree) with a cutting window of 14mm(+/- 10%) with high pressure cord and disposal tubing)
6. it should have single use angled hand piece (45degree)with a cutting window of 14mm (+/- 10%) with high pressure cord disposal tubing
7. it should have single use angled hand piece (45degree)with a cutting window of 8mm (+/- 10%) with high pressure cord disposal tubing.
8. **Comprehensive Warranty – 02 years**, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 02 years, valid for 26 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

9. Comprehensive Maintenance Contract (CMC) -**08 years post completion of warranty of 02 years.** CMC shall include preventive maintenance including calibration as per technical/ service /operational manual of the manufacturer, service charges and spares, after satisfactory completion of Warranty. Cost of consumables shall not be included in CMC. Further there will be **98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period**.

10. Consumables:- The buyer intends to buy consumables from open market at competitive pricing and hence, the seller should declare the following para on their letter head, duly signed &sealed:-

We accept usage of third party consumables unconditionally without any threat of invalidation of warranty or CMC.

9. Prices for hand pieces should be quoted for next 5 year to be frozen along with the bid in the below format.

No.	Hand Piece	for 1st Year	for 2nd Year	for 3rd Year	for 4th Year	for 5th Year
1.	15 Degree angled hand piece with a cutting window of 14mm					
2.	45 Degree angled hand piece with a cutting window of 14mm					
3.	45 Degree angled hand piece with a cutting with cutting window of 8mm					

17. Autoclave

1. The class B autoclave should provide sterilization at 121^0 C and 134^0 C and alsoa flash cycle for rapid sterilization of about 18 lt capacity.

2. The autoclave should be equipped with a vacuum pump ejection system for air pockets from the chamber at the beginning and at the end of the cycle.

3. The chamber should be made of stain less steel of International standards with heating element placed outside of the chamber.

4. There should be rapid warm up facility.

5. All warm-up, sterilization and drying phases should be completely automatic and all parameters should be microprocessor controlled.

6. The system should be equipped with required safety features. The door opening should be controlled by an electromagnetic device and it should open only with atmospheric pressure in the chamber.

7. Directed airing system with a tray for instruments to be inserted should be equipped with automatic cycle phases, filters and electric commands.

8. The system should monitor all parameters of the cycle of sterilization and there should be completely computerized management for monitoring of all automatic operative functions, and auto-diagnosis of each component to prevent any possible human error.

9. There should be separate tanks for clean water as well as for contaminated water.The pump should start automatically for filling up water unless the maximum level is reached.

10. Sensor based vaporization &free standing Hands Disinfection System for maintaining hygiene in the working area strictly of same manufacturer.

11. All above components should be of same manufacturer strictly.

12. The system should have built-in printer.

13. All components should be US FDA or European EC certified and should be manufactured by I S O certified company.
14. **Comprehensive Warranty – 02 years**, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 02 years, valid for 26 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

15. Comprehensive Maintenance Contract (CMC) **-06 years post completion of warranty of 02 years.** CMC shall include preventive maintenance including calibration as per technical/ service /operational manual of the manufacturer, service charges and spares, after satisfactory completion of Warranty. Cost of consumables shall not be included in CMC. Further there will be **98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period**.

16. **Consumables:-** The buyer intends to buy consumables from open market at competitive pricing and hence, the seller should declare the following para on their letter head, duly signed &sealed:-

We accept usage of third party consumables unconditionally without any threat of invalidation of warranty or CMC.

18. Nerve Stimulator – Qty – 01 No

Ergonomic shape and large display
Instrument type: BF
Battery : Should run on any 9V (alkaline) batteries
Power consumption : 6 mA (* mA max)
Stimulation current : 5 mA max (0-12 k), Stimulation Voltage : 95V
Stimulation frequency : 1 Hz / 2 Hz , Allowable load impedance : 0 k - 12
Stimulus duration : 1.0 ms - 0.5 ms - 0.3 ms - 0.1 ms - 0.05 ms
Digital dial for Precise and tactile current adjustment with convenient tactile feedback.
Sense function stimulation duration- SENSe (0.10 ms - 0.10 ms - 0.15 ms to 1.0 ms)
Current measuring accuracy : +/- 0.02 mA
Impedence measuring range : 1 KOhms - 90 Kohms for target stimulation current > 0.5 mA
Weight : 250 g
The enlarged full graphics LC display having good visibility with wide angle of view.
The following information should be displayed on the stimulation screen at all times:
Stimulus amplitude in mA (large digits)
Current range :
Stimulus duration in ms
Stimulus frequency in Hz
Load impedance in kΩ
Direct access keys: Direct access keys to let conveniently adapt the most important and frequently used settings to the clinical environment. (amplitude range - mA, stimulus duration - ms, stimulus frequency - Hz).
Convenient menu navigation: Adjust your default settings conveniently by navigating through the menu with the arrow keys on the menu keypad. Just press the power on/off button for less than a second to jump back to the stimulation screen.
Sequential electrical nerve stimulation (SENSe) - Featureing the option of selecting a frequency of either 1 Hz, 2 Hz or 3 Hz for SENSe and a stimulus duration of 0.05 ms - 0.10 ms - 0.30 ms -0.50 ms - 1.00 ms.
It should have following Safety Features:
Threshold current - To visually and acoustically indicate when the stimulus duration-dependent current threshold goes out-of-tolerance indicating that the needle may be too close to the nerve.
Visual warning: The full digits of the target current display converted to contoured digits when the current threshold drops below the preset level. The LED flashing yellow (instead of green).
Acoustic warning: A warning signal should be additionally sounded.
Impedance Check: The HNS 12 alarm for unacceptable impedance levels that can be caused by a loose electrode cable or dry skin electrode.
Auto Adjust current feature - the current adjusting automatically when the stimulus duration is changed.
Optional Accessories:
Pen: The Pen for percutaneous nerve mapping to help to pre-assess the puncture site. Also suitable for training sessions.
Should be European CE and US-FDA certified/BIS certified.
Comprehensive Warranty – 03 years, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 03 years, valid for 38 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

19. Technical Specifications for Electro-Hydraulic OT Table:- Qty -01 No

A. General Operating Table Features:

1. Multipurpose electro-hydraulic mobile OT table with divided leg section suitable for all major surgical procedures; complete with at least 5cm thick mattress, head rest, divided leg sections and handset.
2. Full-length radio-translucent table-top for X-ray and fluoroscopy with full length tunnel for X-ray cassette placement.
3. Should be C-arm compatible
4.Material should be 304Grade SS
5. Minimum five sections (including divided leg section & head rest) tabletop, which should be made of a special scratch resistant, fully radiolucent and easy to clean material. Base & column cover to be made of rust free 100% stainless steel alloy and stainless steel.
6. Removable head and leg sections to suit different applications.
7. Battery powered with facility for connection to mains electricity for immediate use.
8. Battery exhaustion protection and low battery warning via an audible beep/display indicator should be available.
9. Table should not have a thread/sharp edge for ensuring proper cleaning and user safety.
10. Table mattress material should be 2 inch latex free fully radiolucent,detachable,impermeable to fluid and easily washable.
11. The remote handset should offer controls namely Trendelenburg/Reverse Trendelenburg, Lateral Tilt, Flexion/ Extension, Height functions and slide functions. The Table should have return to level function with one press of the button (Auto levelling).
11. Table should have a narrow and eccentric base allowing optimum access and greater stability.
12. Table should have offset slim-line column, with S.S. Inverted telescopic covers, for superior fluoroscopy access.
13. Side rails on both sides for attaching accessories/clamps. The table top should not be fitted with transverse members casting shadows on the X-ray images except for the release brackets for adjustment on either side
14. It should have a stable mobile base with lockable antistatic castors. Table should be locked at the head/ foot end via a central foot pedal/ Hand control. It should be able to perform 360-degree rotation on castors.
15. The Table should be operated by the following operating elements:
a. Corded/ remote hand control positions :Trendlenberg/reverse trendlenberg,lateral tilt, longitudinal shift, height adjustment and back plate up and down,flex and antiflex positions
b. Manual override facility &Battery Powered Auxiliary control switches for critical table movements in case of power/ hand control failure or on hand control loss. The override system should have following back up movements up/down, Trendelenburg/Rev. Trendelenburg, Rt/Lt lateral Tilt, Floor Locking.

B. Table Top Adjustments:

1. Length of table top (with headrest & leg positioners): 2000-2100 mm
2. Width of tabletop (without side rails): 520-600mm
3. Minimum height of table top (without mattress): 580 mm or lower
4. Maximum height of table top (without mattress): 1000 mm or higher
5. Table top longitudinal sliding: at least up to 360 mm or more
6. Lateral tilt (left/ right): at least up to 20 degree or more(left/ right)
7. Trendelenburg: at least up to 30 degree or more
8. Reverse Trendelenburg: at least up to 30 degree or more
9. Head plate adjustment (raising/ lowering), detachable: - at least 60 degree up, at least 90 degree down
10. Back plate adjustment (raising/ lowering): at least 80 degree up, at least 30 degree down
11. Leg section adjustment (raising/ lowering). detachable: at least 10 degree up, at least 90 degree down
12. Leg section horizontal adjustment: 0- 90 degree (single plate)
13. Back plate break (flexion) position: at least 210 degree or more
14. Back plate break (reflex/ extension) position: at least 120 degree or less
15. Maximum permissible load: 270 kg or more in all table positions

C. Accessories:

1. Padded standard arm board with fastening clamps, adjustable via ball and socket joint - 1 pair
2. Raised padded arm rest with clamps (for upper arm support in kidney positioning)- 2 nos.
3. Padded lateral brace support with clamps (for body support in kidney positioning)-1 pair 4.Padded shoulder support with clamps (for support in Rev. Trendelenburg)- 1 pair
5.X-ray cassette tray with holder-1 no.
6.Padded radiolucent urology extension (9-inch or more) on leg side (for fluoroscopy in Lithotomy position)- 1 no.
7.Lithotomy leg stirrups with side rail clamps "Goepel type- (adult): 2 pair set
8. Accessories for prone and different positioning:
(a) Gel flat bottom chest roll (510x150x100mm)- 2 nos.
(b) Gel prone head rest (adult)- 1 no.
c)Prone chest support gel pad of size-650x460x130mm
d)Gel head positioner adult-1
e)Gel head positioner pediatric -1
9.Anesthesia screen frame with clamp- 1 no.
10. Accessories stand. mobile on castors- 1 no.
11. Light weight leg transfer board- 1 no.
12. Body restraint strap with clamp (if applicable)-03 nos.
13. All required types and numbers of side- rail Ciark sockets/ clamps to be provided with above accessories for their use in provided OT table.

D. Electrical specifications:

1. Maintenance-free rechargeable batteries with backup capacity for at least 5 hours.
2. Recharging of the batteries and supply of the operating table by means of a mains cord.
3. Mains voltage 220-240V AC, mains frequency,50/60 Hz.via mains cord with inbuilt stabilizer.

E. Environmental conditions: 1.The unit shall be capable of being stored continuously in ambient temperature of 10 - 50 degree Celsius & relative humidity of 10-90%.
2.The unit shall be capable of operating continuously in ambient temperature of 10 - 40 degree Celsius & relative humidity of 30-75%.

F. Certification:

1. The table should be BIS/ European-CE (with four digit notified body number)/ USFD Approved product.

G. Safety and Performance standards

1. Protection against water spray: I PX4 compatible.
2. Electrical safety conforms to standards for electrical safety: Protection against electric shock- Class-I equipment. Degree of protection- Type BF, IEC 60101-1 (or equivalent BIS standards).
3.Safety requirements for operating tables: IEC 60601-2-46 (or equivalent BIS standards).
4.Shall meet Electromagnetic Compatibility: IEC 60601-1-6:2001 (or equivalent BIS standards).

H. Other requirements

1. **Comprehensive Warranty – 02 years**, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 02 years, valid for 26 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

2. Comprehensive Maintenance Contract (CMC) **-08 years post completion of warranty of 02 years.** CMC shall include preventive maintenance including calibration as per technical/ service /operational manual of the manufacturer, service charges and spares, after satisfactory completion of Warranty. Cost of consumables shall not be included in CMC. Further there will be **98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period**.

3. **Consumables:**- The buyer intends to buy consumables from open market at competitive pricing and hence, the seller should declare the following para on their letter head, duly signed &sealed:-

   We accept usage of third party consumables unconditionally without any threat of invalidation of warranty or CMC.

4. All the firms are required to submit their catalogue along with tender/quotation clearly marking the quoted item and No. with a highlighter.
5.All firms should have supplied the quoted instruments to AIIMS/ PGI/ JIPMERJ SGPGI or other central institutes and should submit a certificate of satisfactory working from the concerned Govt. Hospital.
6.Product quality certificate required.
7. Attach certificate from principal that spare parts will be available for next 10 years.
8.The principal manufacturer must have direct presence/approved service center in India.
9. Demonstration of equipment and training to be provided after completing supplies and installation before acceptance

20. Electro Surgical Generator – Qty 02 Nos.

1. Micro controller based isolated electrosurgical Generator having both Monopolar and Bipolar output designed for all surgical procedures.
2. Smart generator should be able to monitor changes in tissue impedance continuously and adjust power.
3. Monopolar output should have three cutting modes:
    - Low cut for delicate tissue or laparoscopic cases having maximum power of 300W.
    - Pure cut for clean, precise cut in general surgery having maximum power of 300W.
    - Blend mode for cutting with haemostasis having maximum depending power of 200W
    - All cut modes should be able to adjust output power depending on tissue.
    - Density by less than 15% or 5 W, whichever is greater.
4. It should have three Coagulation Modes with maximum power of 120 W
    - Desiccate mode for low voltage contact coagulation suitable for laparoscopic and delicate tissue work
    - Fulgurate mode for efficient non- contact coagulation in most applications.
    - Spray mode should have randomized spray effect of very in amplitude and frequency for coagulation large areas with minimum depth of necrosis
5. It should have three bipolar modes with maximum power of 70 W.
    - Precise mode to have fine control of desiccation in delicate tissue
    - Standard mode for application at low voltage to prevent sparking.
    - Macro mode for application for application on tissue with high resistance
6. It should have patient plate monitoring facility and should give audio visual alarm and deactivate output if contact between patient and patient plate in not proper to eliminate risk
7. The unit should tow hand switching and two foot switching monopolar output one hand switching and foot – switching bipolar output
8. The should have membrane keyboard for power setting
9. The unit should have individual digital display of power for bipolar, monopolar cut and Monopolar coag
10. The unit should temperature sensing cooling fan, which should operate automatically to protect generator from thermal damage

11. It should have RS232 Serial from to interface with computer to redice the time and effort in problem diagnostics.
12. The unit should be compatible with Argon Coagulator and Ultrasonic Surgical Aspirator & smoke evacuation System.
13. The unit should have RF activation port to tell other equipments like ECG& EEG that RF current is being generated.
14. The Unit should have RF Leakage current more than 150mA
15. It should be compact and light weight, weighing less than 10kg.
16. It should have safety standard of UL,CUL and IEC 601-2-2
17. It should be compatible with Tissue Select.
18. It should be compatible with Robotics ar.
19. It should be compatible with Cook's lead Extraction system.
20. Unit should be useful for under water monopolar Procedures
21. The unit should be USFDA/ European CE/BIS approved
22. **Comprehensive Warranty** – **02 years**, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 02 years, valid for 26 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

23. Comprehensive Maintenance Contract (CMC) **-08 years post completion of warranty of 02 years.** CMC shall include preventive maintenance including calibration as per technical/ service /operational manual of the manufacturer, service charges and spares, after satisfactory completion of Warranty. Cost of consumables shall not be included in CMC. Further there will be **98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period**.

24. **Consumables:-** The buyer intends to buy consumables from open market at competitive pricing and hence, the seller should declare the following para on their letter head, duly signed &sealed:-

    We accept usage of third party consumables unconditionally without any threat of invalidation of warranty or CMC.
25. Accessories

Monopolar Footswitch	
Bipolar Footswitch	
Disposable hand switching pencil	
Disposable patient plate Monitoring system	
Universal adapter	

21. Technical Specification of Modular Instrument Trolley – Qty – 01 No.

- It should be made of high-quality stainless steel (SS 304 grade) with a smooth, polished finish for durability and ease of cleaning.
- It should have a modular design to accommodate different surgical instruments and accessories.
- It should be mounted on **four swivel castors** (minimum 125 mm), two of which should have brakes for easy mobility and stability.
- It should have **multiple shelves/drawers** (as per requirement) with smooth sliding mechanism.
- It should have **removable and adjustable shelves**, making it suitable for various surgical setups.
- It should be provided with **raised edges or guard rails** to prevent instruments from slipping.
- It should have an **ergonomic handle** for easy maneuverability.
- It should be **rust-proof, corrosion-resistant, and disinfectant-resistant**, ensuring long service life.
- It should have a **load-bearing capacity of at least 50–80 kg**.
- It should be designed in compliance with **hospital and OT standards** for infection control.
- It should have compliance with international safety standards (IEC/ISO/CE/FDA/BIS
- **Comprehensive Warranty – 01 year**, which shall be enumerated from the date of installation &commissioing and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 01 year, valid for 14 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

22. Specification of Battery Operated dermatome – Qty 02 Nos.

1. It should be able to harvest split skin graft without any cord of at least 80 mm size.
2. It should precisely cut between 0.10 to1.2 micrometer with increment of 0.1micro meter.
3. It should be battery operated.
4. Rechargeable Li ion battery 3000mAh or more.
5. It should be capable of cutting a width of 80mm, 70mm, 60mm, 50mm, 40mm, 30mm, 20mm and 10mm by using various graft plates or width reducing clamps.
6. It should be portable.
7. Instruments/Accessory should be autoclavable.
8. Autoclavablebox should be provided for all autoclavable parts.
9. Storage boxes for dermatome, charger, batteries, accessories etc. should be provided.
10. Recharge battery life should be at least 1hr (or better).
11. All the accessories for routine care of the Dermatome – cleaning, disinfection must also be provided.
12. The vendor must be available for installation, commissioning and training of the user department personnel in routine care of the instruments in cleaning, disinfection, sterilization etc. for better longevity of the system.

- All instruments must have inscription indicating the name of the manufacturer and the catalogue number.
- Catalogue should be submitted along with the technical Bid marking the quoted item and no. with highlighter
- The vendor should provide the complete details ofthe users (reputed govt. hospitals like AIIMS/PGI/JIPMER/SGPGI or other central institute) including contact person,

phone number, fax number, etc. along with satisfactory performance report from some of the users (at least three).

- All instruments should be of international quality like BIS Certified/USFDA/EU/ CE/ISO supported by documentary certificates (Certificate of product quality must be attached).
- Indian manufacturer should have license from Central Drugs Standard Control Organization (CDSCO) to manufacture for sale or for distribution of powered dermatome under class B medical device and for manufacture sale and distribution Sterilized dermatome blades.
- Quoted model should be certified /tested as per IEC 60601-1 from NABL Accredited test lab.
- Manufacturers should have ISO 13485 certification bodies registered with NABCB under Medical devices Quality Management System.
- 01set should contain the following:
  Dermatome- 01 No.
  Battery Cartridge and motor–02Nos.
  Battery charger with cord for charging -1
  Auto clavable Box- 01 No.
  Graft Cutting Plates of All Sizes(01each) and the plate fixing screws and screwdriver to be provided.
  Dermatome Blades – 100 Nos.
  Storage Box-01 No.

Other requirements

12. Comprehensive Warranty – 02 years, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of 5% of the equipment cost including warranty of 02 years, valid for 26 months from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

13. Comprehensive Maintenance Contract (CMC) -06 years post completion of warranty of 02 years. CMC shall include preventive maintenance including calibration as per technical/ service /operational manual of the manufacturer, service charges and spares, after satisfactory completion of Warranty. Cost of consumables shall not be included in CMC. Further there will be 98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period.

14. Consumables:- The buyer intends to buy consumables from open market at competitive pricing and hence, the seller should declare the following para on their letter head, duly signed &sealed:-

    We accept usage of third party consumables unconditionally without any threat of invalidation of warranty or CMC.

15. The principal manufacturer must have direct presence/approved service center in India.

16. Demonstration of equipment and training to be provided after completing supplies and installation before acceptance

23. TECHNICAL SPECIFICATIONS FOR MOBILE C-ARM MACHINE – Qty 01 No.

The system should be able to perform Digital Subtraction Angiography and permit image guided vascular intervention on real time basis. The system should be mobile to permit usage in different operation rooms.

C-Arm

a). The system should have a minimum of 70 cm or more free space within the C-Arm (height) to provide a large imaging space.

b). The C-arm depth should be 65 cm or deeper to provide a large imaging space and C-arm clearance (depth) around the patient and the imaging table.

c). The C-arm should have a manual angulation of +/- 180 degrees to allow the imaging chain to accomplish angled projections.

d). The C-arm should have orbital movement of 90 +/- 30-45 degrees for better penetration in Cranial/caudal movement.

e) The system should have at least 40cm of motorized vertical C-Arm travel capability to adjust the imaging chain height.
f). The C-arm should provide side to side (wig-wag) and the horizontal travel movement to allow panning during an imaging.

X —Ray Generator and X Ray Tube

a)The generator should be Micro Processor controlled converter type with out put of 15 KW or more and minimum 50 kHZ frequency (or higher).
b) The system should operate in full capacity on 220 volts AC, 15 amps.
c) FluroscopickVp range: 40-120 kVp
d) Fluroscopic mA range: 4mA-60 mA.
e) Radiographic kVp range: 40-120 kVp
f) Radiographic mA range: Minimum 100mA
g) The generator should be capable of providing pulse fluoroscopy with pulse rates minimum 15 frames/sec.
h) The X-ray tube should be a rotating anode X-ray tube type.
i) The tube need to have additional safety filtration for the stray or scattered radiation i.e Cu filters preferably
j) Anode heat storage capacity should be 300 K.H.U. or higher
k) Anode cooling capacity should be 70 kHU/min. or higher

Flat Panel Detector System

a) The system should have a Flat panel detector.
b) The Size of the detector should be of minimum 25 cm X 25 cm.
c) The system should be equipped with two high-resolution 18" LCD/TFT medical grade monitorsor more.
d) The system should provide a last image hold capability.
e) The system should be equipped with touch control panel.
f) The system shall allow the user to change the image orientation on the display screen during a live exposure or using the last image hold. Those functions include image rotation, and top to bottom image reversals.

Digital System and image Management

a) The system should have multi patient data base for handling large quantities of image. The system should be capable of saving more than 5000 images to the internal hard disk and retrieve stored images later.
b) The system should automatically select proper imaging parameters, kVp and mA during and imaging, but also provide the user to over-ride these setting manually.
c) Real time and automatic brightness and contrast should be provided to optimize displayed image.
d) The system should provide a real — time post processing edge enhancement capabilities to get better image quality according to the density of the tissue. An electronic zoom function, an automatic save function to hard disk, Mosaic Display.
e) It should have facility for image/fluoro/cine sequences retrieval on a CD/DVD/Pen drive.
f) System should have facility for DICOM connectivity and be DICOM ready, all DICOM functions (DICOM Send/Storage Commitment. DICOM Print, DICOM Query/Retrieve, and DICOM Work list/MPPS) should be offered.

5. DSA: Digital Subtraction Angiography to be offered as standard.

6. Essential Accessories

a)Suitable U.P.S. to run the system for at least 15 minutes should be quoted with the system.
b) Zero Lead Aprons-6 Nos.
c) Thyroid Shield — 6 Nos.

Conditions for tender:

1. All accessories should be from same Original Equipment Manufacturer.
2. Instruments must be ISO certified and copy should be enclosed. (The ISO Certificate must be issued by any organization accredited by Bureau of Indian Standard or accredited by international accrediting forum "IAF" (Certificate to be attached).
3. The equipment should be USA FDA/ European CE (from a Four Digit notified body) approved.
4. The equipment should be AERB approved.
5. Installation process should be performed by O.E.M trained service engineers / service representatives on OEM letterhead or Service Report within 15 days of supply, with the mandatory provision of providing preventive services visit of OEM trained Service Engineer/ Service Representative quarterly per year till completion of warranty period (i.e., 04 visits/year) year till completion of CMC period.
6. The equipment should have Brand name / Model Number embossed / etched on the equipment.
7. All the technical specifications in the compliance statement must be supported by Original Literature from the firm / O.E.M with highlighting Numbering & flagging of all technical certificates.
8. Offered Equipment should have strong Govt. Installation base
9. Offered Equipment should have Regional after Sales Service Centre of the Original Equipment Manufacturer in the north region for 95 % uptime guarantee.
10. For the offered main unit, the essential, optional required consumables'/accessories' shelf life should be declared on the Original Equipment Manufacturer's letterhead.
11. In case of technical snag / failure / breakdown the response time for the inspection should be within 24 hours and repair within 05 days otherwise provide a service machine till the period of recovery of breakdown of the unit, failing which attracts penal action as per decision of institute / hospital.
12. For offered equipment the Training of technical staff and users should be performed by Original Equipment Manufacturer trained Service Engineers - Service Representatives
13. For offered equipment the Installation Process should be performed by Original Equipment Manufacturer trained Service Engineers - Service Representatives on Principal Company / Original Equipment Manufacturer's letterhead.
14. Company should quote their latest model.
15. As a tendering process the Demonstration of the offered Equipment is Mandatory at hospital / institute premises at bidder's cost.

Other Requirements

17. **Comprehensive Warranty** – **02 years**, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 02 years, valid for 26 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

18. Comprehensive Maintenance Contract (CMC) - **08 years post completion of warranty of 02 years.** CMC shall include preventive maintenance including calibration as per technical/ service /operational manual of the manufacturer, service charges and spares, after satisfactory completion of Warranty. Cost of consumables shall not be included in CMC. Further there will be **98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period**.

19. **Consumables:**- The buyer intends to buy consumables from open market at competitive pricing and hence, the seller should declare the following para on their letter head, duly signed &sealed:-

    We accept usage of third party consumables unconditionally without any threat of invalidation of warranty or CMC.

20. The principal manufacturer must have direct presence/approved service center in India.

21. Demonstration of equipment and training to be provided after completing supplies and installation before acceptance

24. TECHNICAL SPECIFICATION - SKIN GRAFT MESHER WITH DERMACARRIER – Qty 02 Nos.

S.NO.	Skin Graft Mesher is a **surgical skin grafting tool** to create perforations in a skin graft, so it can be expanded to cover a recipient site that is larger than the donor site, with dermaCarrier to obtain greater area coverage from a conventional sheet graft is designed for simple operation:
1	Durable, stainless-steel construction for years of consistent performance
2	Easy Ratchet handle motion for smooth transport of graft carrier through the mesher.
3	Roller blades can be disengaged for cleaning.
4	Built-in comb which minimizes the chances of grafts sticking to and wrapping around the cutters.
5	Stainless-steel case which makes sterilization and transportation simple
6	Lubeless gears which help to ensure a smooth performance, time after time.
7	The Mesher offers **four skin graft carriers ratios1.5:1, 3:1, 6:1, and 9:1** which cover greater areafrom a conventional sheet graft
8	The Mesher consists of a ratchet handle, continuous feed roller, a cutting roller and a guidance plateau.
9	The guidance plateau helps ensure proper alignment of the Dermacarriers and cutting rollers, and the ratchet handle facilitates proper advancement of the carrier.
10	The derma carries to be provided with the Mesher a) 1.5:1 Derma carrier Box of 10 b) 3:1 Derma carrier Boxof 10 c) 6:1 Derma carrier Boxof 10 d) 9:1 Derma carrier Box of 10
11	Unit Should be BIS/European CE / USFDA
12	Manufacture should ne ISO 13485 Certificate

13. **Comprehensive Warranty** – **02 years**, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 02 years, valid for 26 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.

14. Comprehensive Maintenance Contract (CMC) - **06 years post completion of warranty of 02 years.** CMC shall include preventive maintenance including calibration as per technical/ service /operational manual of the manufacturer, service charges and spares, after satisfactory completion of Warranty. Cost of consumables shall not be included in CMC. Further there will be **98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period**.

15. **Consumables:-** The buyer intends to buy consumables from open market at competitive pricing and hence, the seller should declare the following para on their letter head, duly signed &sealed:-

    We accept usage of third party consumables unconditionally without any threat of invalidation of warranty or CMC.

25. Technical Specifications of Surgical Microscope

1. Working distance:
   200-620 mm or better, with Over head design continuously variable through motorized multifocal lens, activated through Handgrips and through control panel. Manually adjustableoverride.
2. Magnification range:
   Maximum magnification of the microscope should be at least 19x or better must be controlled by motorized handgrip without any additional image multiplier.
3. Focusing:
   Motorized via multifocal lens activated through Hand Grip & Touch screen control panel. Manually adjustable override. The system must provide automatic focusing
4. Binocular tube:
   Main Surgeon Binocular Tube should be Tiltable binocular tube 0 to 180 degree or better with 12.5x /10x widefield eyepieces with dioptric setting +5D to -8D
5. Light Source:
   300W Xenon illumination with integrated 300W Xenon back-up with fast action lamp Change over.
6. Illumination Field Diameter:
   Should have built in automatic zoom-synchronized illumination field diameter, with manual override and reset feature.
7. Automated illumination control:
   Should have Automated Illumination. Brightness control should be linked to working distance. Illumination also can be controlled by hand switch or foot switch.
8. Handgrip& Foot control panel:
   Microscope handgrip should have facility to control Motorized Focus, Motorized Zoom, Illumination, Video & Photo recording & Magnetic clutches for all 6 axismovement . Multi-functional wireless Footswitch should be supplied along with the microscope.
9. Face to Face Attachment for Plastic & Reconstructive Surgery:
   Microscope should have Symmetrically configured face to face attachment with binocular tube 0 to 180 degree or better with Eye piece 10x or 12.5x wide field eyepiece with integrated eye cups, for & diopter correction of +5D to -8D
10. Balancing:
    The system must provide a one touch automatic balancing of all system axes without any manual Interaction or axis adjustments.
11. Beam Splitter:
    Integrated Beam Splitter (not Visible from outside / separate attachment)
12. Camera:
    Fully Integrated 3Chip HD Medical Grade Video Camera (Camera not Visible from outside) So that maximum resolution will display &record.((external/attachable camera will not be considered).
13. Display:
    Full HD Medical grade 24" or better touchscreen display system attached with the microscope system. (No External Monitor/detachable monitor will be acceptable)
14. Recording:
    Full HD inbuilt video recording system with integrated HDD of at least 1TB

(external/attachable recorder will not be considered).

15. XY Movement:

    For precise positioning of the microscope, the system must offer a motorized XY movement, providing in any (even horizontal) position of the optical axis a correct XY movement.

16. Automatic focusing

    Microscope should have facility to autofocus with single button press

17. Damping Correction:

    System should have robotic control active vibration damping mechanism to avoid disturbing vibrations.

18. Microscope must be CE/US FDA/BIS Approved.
19. Microscope must be upgradable for intra operative fluorescence for the visual assessment of patency of vessels joined by anastomosis.
20. **Comprehensive Warranty** – **02 years**, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 02 years, valid for 26 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.
21. Comprehensive Maintenance Contract (CMC) -**08 years post completion of warranty of 02 years.** CMC shall include preventive maintenance including calibration as per technical/ service /operational manual of the manufacturer, service charges and spares, after satisfactory completion of Warranty. Cost of consumables shall not be included in CMC. Further there will be **98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period**.
22. **Consumables:**- The buyer intends to buy consumables from open market at competitive pricing and hence, the seller should declare the following para on their letter head, duly signed &sealed:-

    We accept usage of third party consumables unconditionally without any threat of invalidation of warranty or CMC.

26. SPECIFICATION OF DUAL CUFF PNEUMATIC TOURNIQUET – Qty 01 No.

- Intelligent Tourniquet 2003 (AC) LD
- Double Cuff for Child 8x30 (Wx)
- Double Cuff for Long Arm 12x46 (WxL)
- Double Cuff for Long Leg 18x76 (WxL)
- Double Cuff for Standard Arm12x35 (WxL)
- Double Cuff for Standard Leg 18x61 (WxL)
- Control : Micro Computerized cuff Pressure Control
- Inflation Air Source : Internal air Compressor
- Cuff Pressure : Adjustable 100 to 450 mmHg.
- Preset Resolution : 10mm Hg.
- Accuracy : Max +5% Display - 3 Digit Pre Selected Pressure, -3 Digit - Clock -Elapsed Time, - Green led for Inflate & Red led for Deflate

- Push Button Functions : Preset Pressure for each separately, Inflate / Deflate - Cuff 1 & 2, Deflate - Cuff 1 & 2
- Clock Elasped Time - 0.00 - 3.00 Hrs.
- Counter : Reset at deflate mode.
- Alarms : Pressure Sensor Setting
- Cuff Pressure is out of range > than 30sec.
- After initial Start
- Cuff Pressure is out of range > than 11sec. During operation
- After elapsed time of 30min & every 30min thereafter
- 3 beeps - 9 min prior to set time
- Deflate mode cuff pressure is higher than 20mm Hg 15 sec. After deflate mode is activated.
- Power Consumption : 200W Voltage Source 230VAC, 50Hz Weight : 7.5kg Dimensions : 290(w) x 110(h) x 260dmm
- Warranty – 03 Years

27. Specifications For Meek Micrografting equipment – Qty – 01 No.

Requirement/ Objective:

The MEEK technique (with true expansion ratios from 1:3 to 1:9) requires only about half of the graft surface compared to the meshgraft method.

Consequently, in comparison with the MEEK technique, the application of widely meshed grafts requires more grafting procedures in case of severe burns. A high graft take, less spillage and a better principle of expansion contribute to the overall opinion that the MEEK technique is the most effective way to deal with the patients' skin. In an overall view, the MEEK method turns out to be less time consuming than meshing, especially in case of large burns.

1. Meek micrografting machine, machine driven model along with Sterilization Case set- 1No.
2. Main Frame of the Unit should be of anodised aluminium & stainless steel
3. Should have double cutting block
4. Graft expansion ratios of 1:3,1:4, 1:6, 1:9 should be possible
5. Cutting axis with ceramic coated 13 circular blades mounted on cutting axis.
6. Should be supplied with adhesive spray (1 can), sterile pre-folded meek gauze 1:4 ratios and cork plate to be supplied in box of 10 pcs - 5 boxes.
7. Should be able to use even small skin fragments & no long strips should be required. Graft and adhesive to be pressed onto a prefolded polyamide gauze, which should be further folded on an aluminium foil backing into 14x14 square pleats.
8. Graft islands should be close together in a regular pattern for a fast and uniform epithelialization
9. The graft islands to be correctly orientated (perferably dermal side down) on the wound bed, to get a nice graft take
10. The motor drive of the blades should be exchangeable with the hand drive
11. Should be supplied with MEEK Adhesive Spray Bottle, 200mL
12. The machine should be entirely steam sterilized, except for the motor
13. Each gauze should be supplied with a 42x42x2.5 mm (1.65x1.65x0.1") cork plate and sterile packed in a peel pouch.

14. Dimensions: 300 x 228 x 134 mm (without hand-drive)
15. Weight: Approx 5 kg (for hand driven version), 6.50 kg (motor driven version)
16. The hand wheel should consists of:
    (a) Hand wheel of anodised aluminium
    (b) Turning knob axis of St.steel
    (c) Turning knob of anodised aluminium and ring made of Brass
    (d) All additional screws of the frame are made out of A2 stainless steel.

    (e) The function of the main frame is to support the blades axis and the cutting block and keep them at a precise distance in order to allow total cutting of the skin and only partial cutting of the cork plate.
    (f) Furthermore the main frame allows horizontal movement of the cutting block over the guiding axis by turning the spindle by means of the hand wheel.
17. Blade Axis:
    Blades axis (made of SS) to align the blades in exact position and to cut the skin by rotation of the axis. Total weight of the blades axisshould be around 0.454 kg (1.0 lb).
18. Cutting blocks:
    (a) There should be double cutting block
    (b) Major parts of the double cutting block should be of Anodized Aluminium
    (c) Weight of a double block is 0.332 (11.7 oz).
    (d) The function of the cutting blocks is to keep the graft in place during cutting.
19. Pneumatic motor and housing
    (a) The motor must be stainless steel compact vane air motor. Recommended pressure 4-8 bar (58-116 psi).
    (b) Should have a 5 micron air filter in the air supply. The motor to be supplied with a sound reducer.

    Weight: 1.1 kg (2.44 Ib)
    Technical data at a pressure of 6 bar (87 psi)
    Power: 270 Watts
    Max. rom: 710 rpm
    Rotation: Counter clockwise
    Air consumption: 0.5 mĉ/min (110 gal/min) Gear ration: 25

The motor to be incorporated in a tube, made out of anodized aluminium.

20. Foot pedal:
    (a) The motor must be switched on and off by means of a pneumatic foot pedal.
    (b) The pedal with one air inlet and one air outlet.
    (c) Material: Cast iron / steel Operating pressure: 2-8 bar (29-116 psi)
    (d) Flow rate at 6 bar (87 psi) 950 l/min (210 gal/min) Weight: 0.7 kg (1.56 Ib)
    (e) Port size: G ¼
    (f) Dimensions (Ixwxh): 193x83x70 (7.6x3.3x2.8")
21. Serrated wedge:
    (a) The serrated wedge (fig. 7), to be used whenever the graft of the patient adheres to the cover of the cutting block at opening.
    (b) Material: anodized aluminium
22. **Comprehensive Warranty – 02 years**, which shall be enumerated from the date of installation & commissioning and acceptance of the equipment by AIIMS Raipur. The turnkey should ensure that PSD for the amount of **5% of the equipment cost including warranty of 02 years, valid for 26 months** from the date of acceptance is obtained from the suppler in name of The Director, AIIMS Raipur and the same should be handed over to AIIMS Raipur to safeguard the warranty period.
23. Comprehensive Maintenance Contract (CMC) **-08 years post completion of warranty of 02 years.** CMC shall include preventive maintenance including calibration as per technical/ service /operational manual of the manufacturer, service charges and spares, after satisfactory completion of Warranty. Cost of consumables shall not be included in CMC.

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

24. **Consumables:-** The cost of consumables for **initial 02 years** should be included with the cost of equipment with warranty and the cost of consumables for **further 03 years** needs to be frozen at the time of purchase. Accordingly, the seller shall supply the required consumables for initial 02 years (covering warranty period) free of cost. Further, the seller should furnish a list of required consumables **for 03 years post warranty** along with the price bid separately. The supply order for consumables for 03 years, post warranty shall be placed by AIIMS Raipur as and when required, at the discretion of AIIMS Raipur at the frozen cost of consumables.

28. Orthopedic Battery Operated Drill Machine – Qty 01 No.

Purpose	Orthopedic battery operated drill system is used to perform various tasks related to bone drilling, cutting, and shaping during surgical interventions
System Type	Drill and Reamer Hand piece, Drilling and Reaming Attachments, Batteries, Battery Charger and sterilization case
HANDPIECE FOR DRILLING & REAMING	
Type of handpiece	Modular
Handpiece should allow quick and easy change from drilling function to reaming function	Yes
Trigger Type	Single
Handpiece should have ergonomic pistol grip design for maximum comfort and control	Yes
Streamlined design for optimum visibility of the surgical site	Yes
Switch for handpiece modes and safe mode	Yes
Should be totally sealed to allow use in washer sanitizer	Yes
Modes available	Forward and Reverse Mode
Drill Speed	1200 RPM or better
Ream Speed	250 RPM or better
Handpiece should have provision of variable speed control	Yes

Drill Torque	40 in. lbs or better
Ream Torque	80 in. lbs or better
Appropriate adaptors for drilling, reamimg, pin placement and wire placement to be provided	Yes
Weight of handpiece with battery (Grams)	900 to 1200 grams
Toolless attachments insertion	Yes
Autoclavable	Yes
DRILLING AND REAMING ATTACHMENTS	
All the attachments should be compatible with the handpiece	Yes
Hudson reamer attachment to be provided	Yes
AO reamer attachment to be provided	Yes
AO type drill attachment with quick coupling to be provided	Yes
Jacobs Chuck with minimum 6 mm opening to be provided	Yes
Keyless chuck to be provided	No
Wire driver attachment to be provided	Yes
Pin driver attachment to be provided	yes
DHS reamer attachment with quick coupling to be provided	yes
OSCILLATING/SAGITAL SAW HAND PIECE	
Ergonomic pistol grip design for maximum comfort and control	NA
Switch for hand piece modes and safe mode	NA
Should be totally sealed to allow use in washer Sanitizer	NA

Blade mount should be adjustable to different angles with 360 degree rotation	NA
Should have tool less mounting of accessories for all blades or attachments	NA
Saw Speed	NA
Cutting Arc	NA
Weight of hand piece with battery	1300
Saw noise level (Decibel)	70
Autoclavable Hand Piece	NA
Special blades each for TKR and THR to be provided (Nos)	0
RECIPROCATING SAW HAND PIECE	
Ergonomic pistol grip design for maximum comfort and Control	NA
Switch for hand-piece modes and safe mode	NA
Should be totally Sealed to allow use in washer sanitizer	NA
Should have tool less mounting of Accessories for all blades or Attachments	NA
Reciprocating Saw Speed	NA
Weight of hand piece with the battery	1300
Noise level of Saw (Decibel)	72
Autoclavable hand piece	NA
Reciprocating saw blades to be provided (Nos)	0
BATTERY SPECIFICATIONS	
Type of Battery	Lithium ion Battery
Number of batteries to be provided	4

Minimum run time of batteries	15 minutes or more
Battery Voltage	Between 9 to 15 Volt DC
Autoclavable outer housing for batteries to be provided (Nos)	2
Transfer shroud for Battery to be provided (Nos)	4
BATTERY CHARGER SPECIFICATIONS	
Input Voltage	220-240 volts
Should be easy to use and intuitive interface	Yes
Fully automatic charging process	Yes
Number of batteries that can be charged simultaneously at a time	4 or more
Capability to identify the worn out battery	Yes
Indicator to provide battery status for charging	Yes
ACCESSORIES	
Sterilization case from the same manufacturer to accommodate all the items for autoclave to be provided	Yes
CERTIFICATIONS & REPORTS	
Compliance to Medical Device Rules (MDR) 2017 as amended till date	Yes
Availability of valid drug license for the product issued from the competent authority defined under Drugs and Cosmetic Act 1940 and Rules made there under as amended till date	Yes
Valid Drug License Number	MFG/MD/2024/000300
Manufacturing unit certification	ISO:13485 (Latest)
Additional voluntary certification available	ISO13485
Availability of Test Report for product as per Medical Device Rules (MDR) 2017 as amended till date	Yes

Electrical Safety Standards	IEC/EN 60601-1 or equivalent BIS Standard
Submission of all necessary certifications, licenses and test reports to the buyer at the time of bid submission and/or along with supplies as per buyer requirement	Yes
WARRANTY	
Warranty	**5 years**
MISCELLANEOUS REQUIREMENTS	
Availability of toll free facility for technical support maintained by OEM or authorized agencies	Yes
User/Technical/Maintenance manuals to be supplied in English in hard and soft copy	Yes
List of important spares and accessories, with their part numbers to be supplied to the buyer at the time of supplying the equipment	Yes
Demonstration of equipment and training to be provided after completing supplies before acceptance	Yes
Principal Manufacturer must have direct Presence/approved service center In India	Yes
Certificate of calibration to be provided if any	Yes

SECTION VIII

Format for Integrity Pact

INTEGRITY PACT

PRE-CONTRACT INTEGRITY PACT

This Pre-Contract Integrity Pact (herein after called the Integrity Pact) is made on _(To be filled)__ _____ day of the month of __(To be filled)___ 2025

Between

ALL INDIA ISTITUTE MEDICAL SCIENE RAIPUR having its office at AIIMS Raipur, Tatibandh, Raipur – 492099, (Hereinafter called which expression unless repugnant to the context or meaning thereof be deemed to mean and include its successors, legal representatives and assigns) of the First Party.

And

M/s., with office at (To be filled)_____represented by Shri __(To be filled), Chief Executive Officer (hereinafter called the "BIDDER/Seller"/Contractor which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Party.

Preamble

[Both AIIMS RAIPUR and BIDDER referred above are jointly referred to as the Parties]

AIIMS RAIPUR intends to award, under laid down organizational procedures, Purchase orders / contract/s against Tender /Work Order /Purchase Order No.

AIIMS RAIPUR desires full compliance with all relevant laws and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder/s and Contractor/s.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to:-

1. Enable AIIMS RAIPUR to obtain the desired materials/ stores/equipment/ work/ project done at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement; and
2. Enable the BIDDER to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and AIIMS RAIPUR will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

Clause.1. Commitments of AIIMS RAIPUR

1.1 AIIMS RAIPUR undertakes that AIIMS RAIPUR and/or its Associates (i.e. employees, agents, consultants, advisors, etc.) will not demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, organization or third party related

to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.

1.2 AIIMS RAIPUR will, during the tender process / pre-contract stage, treat all BIDDERs with equity and reason, and will provide to all BIDDERs the same information and will not provide any such information or additional information, which is confidential in any manner, to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERs in relation to tendering process or during the contract execution.

1.3 All the officials of AIIMS RAIPUR regarding this Integrity Pact will report to IEM, any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach shall not be permitted.

1.4 AIIMS RAIPUR will exclude from the process all known prejudiced persons and persons who would be known to have a connection or nexus with the prospective bidder.

1.5 If the BIDDER reports to AIIMS RAIPUR with full and verifiable facts any misconduct on the part of AIIMS RAIPUR's Associates (i.e. employees, agents, consultants, advisors, etc.) and the same is prima facie found to be correct by AIIMS RAIPUR, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by AIIMS RAIPUR. Further, such an Associate may be debarred from further dealings related to the contract process. In such a case, while an enquiry is being conducted by AIIMS RAIPUR the proceedings under the contract would not be stalled.

Clause 2. Commitments of BIDDERs/ CONTRACTORs

2. The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:-

2.1 The BIDDER will not offer, directly or indirectly (i.e. employees, agents, consultants, advisors, etc.) any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of AIIMS RAIPUR, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.

2.2 The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of AIIMS RAIPUR or otherwise in procuring the contract or forbearing to do or having done any act in relation to obtaining or execution of the contract or any other contract with AIIMS RAIPUR for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with AIIMS RAIPUR.

2.3 The BIDDER will not engage in collusion, price fixing, cartelization, etc. with other counterparty(s).

2.4 The Bidder(s) will not pass to any third party any confidential information entrusted to it, unless duly authorized by AIIMS RAIPUR.

2.5 The Bidder (s) will promote and observe ethical practices within its Organization and its affiliates.

2.6 BIDDER shall disclose the name and address of agents and representatives and Indian BIDDERS shall disclose their foreign principals or associates.

2.7 The Bidder (s) will not make any false or misleading allegations against AIIMS RAIPUR or its Associates.

2.8 BIDDERs shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract.

2.9 The BIDDER further confirms and declares to AIIMS RAIPUR that the BIDDER is the original manufacture/integrator/authorized government sponsored export entity of the defence stores and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to AIIMS RAIPUR or any of its functionaries, whether officially or unofficially to award the contract to the BIDDER, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.

2.10 The BIDDER while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of AIIMS RAIPUR or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.

2.11 The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.

2.12 The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.

2.13 If the BIDDER or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is a relative of any of the officers of AIIMS RAIPUR, or alternatively, if any relative of an officer of AIIMS RAIPUR has financial interest/stake in the BIDDER's firm, the same shall be disclosed by the BIDDER at the time of filing of tender. The term 'relative' for this purpose would be as defined in Section 2(77) of the Companies Act 2013

2.14 The BIDDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of AIIMS RAIPUR.

2.15 The BIDDER will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract, and will not enter into any undisclosed agreement or understanding with other Bidders, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

2.16 The BIDDER will not commit any offence under the relevant Indian Penal Code, 1860 or Prevention of Corruption Act, 1988; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the AIIMS RAIPUR as part of the business relationship, regarding plans, technical proposals and business details, including

information contained or transmitted electronically. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.

2.17 The BIDDER will not instigate third persons to commit offences outlined above or be an accessory to such offences.

2.18 The Bidder(s)/Contractors(s) of foreign origin shall disclose the name and address of the Agents/representatives in India, if any. Similarly the Bidder(s)/Contractors(s) of Indian Nationality shall furnish the name and address of the foreign Principal(s), if any.

2.19 The Bidder(s) shall not approach the courts while representing the matters to IEM and the Bidder(s) will await their decision in the matter.

Clause.3. Previous contravention and Disqualification from tender process and exclusion from future contracts

a. The BIDDER declares that no previous contravention occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify BIDDER's exclusion from the tender process.

b. The BIDDER agrees that if it makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

If BIDDER before award or during execution has committed a contravention through a violation of Clause 2, above or in any other form such as to put his reliability or credibility in question, AIIMS RAIPUR is entitled to disqualify the BIDDER from the tender process.

Clause.4. Equal treatment of all Bidders / Contractors / Subcontractors

4.1 The Bidder(s)/ Contractor(s) undertake(s) to demand from his Subcontractors a commitment in conformity with this Integrity Pact.

4.2 AIIMS RAIPUR will enter into agreements with identical conditions as his one with all Bidders and Contractors.

4.3 AIIMS RAIPUR will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

Clause.5. Consequences of Violation / Breach

5.1 Any breach of the aforesaid provision by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle AIIMS RAIPUR to take all or any one of the following action, wherever required:-

i. To immediately call off the pre-contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER(s) would continue.

ii. If BIDDER commits violation of Integrity Pact Policy during bidding process, he shall be liable to compensate AIIMS RAIPUR by way of liquidated damages amounting to a sum equivalent to 5% to the value of the offer or the amount equivalent to Earnest Money Deposit/Bid Security, whichever is higher.

iii. In case of violation of the Integrity Pact after award of the contract, AIIMS RAIPUR

will be entitled to terminate the contract. AIIMS RAIPUR shall also be entitled to recover from the contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to security deposit/ performance guarantee, whichever is higher.

iv. To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.

v. To recover all sums already paid by AIIMS RAIPUR, and in case of an Indian BIDDER with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a BIDDER from a country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the BIDDER from AIIMS RAIPUR in connection with any other contract for any other stores, such outstanding payment could also be utilized to recover the aforesaid amount.

vi. To encash the advance bank guarantee and performance guarantee /warranty bond, if furnished by the BIDDER, in order to recover the payments already made by AIIMS RAIPUR, along with interest.

vii. To cancel all or any other contract with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to AIIMS RAIPUR resulting from such cancellation/recession and AIIMS RAIPUR shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.

viii. To debar the BIDDER from participating in future bidding processes of AIIMS RAIPUR for a minimum period of five (5) years, which may be further extended at the discretion of AIIMS RAIPUR or until Independent External Monitors is satisfied that the Bidder(s) will not commit any future violation.

ix. To recover all sums paid in violation of this Pact by BIDDER(s) to any middleman or agent or broker with a view to securing the contract.

x. In cases where irrevocable Letters of credit have been received in respect of any contract signed by AIIMS RAIPUR with the BIDDER, the same shall not be opened. xi. Forfeiture of performance guarantee in case of a decision by AIIMS RAIPUR to forfeit the same without assigning any reason for imposing sanction for violation of the pact.

5.2 AIIMS RAIPUR will be entitled to all or any of the actions mentioned in Para

5.1 (i) to (x) of this pact also on the commission by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), of an offence as defined in Chapter IX of the Indian Penal Code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.

5.3 The decision of AIIMS RAIPUR to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the Independent External Monitor(s) appointed for the purposes of this Pact.

Clause.6. Fall Clause

The BIDDER undertakes that it has not supplied/is not supplying similar product/systems or subsystems OR providing similar services at a price / charge lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India or PSU and if it is found any stage that similar

product/systems or sub systems was supplied by the BIDDER to any to the Ministry/Department of the Government of India or a PSU at a lower price, then that very price, with due allowance for elapsed time will be applicable to the present case and the difference in the cost would be refunded by the BIDDER to AIIMS RAIPUR, if the contract has already been concluded.

Clause.7. Criminal charges against violating Bidder(s)/ Contractor(s)/ Subcontractor(s)

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

Clause. 8. Facilitation of Investigation

In case of any allegation of violation of any provisions of this Pact or payment of commission, AIIMS RAIPUR or its agencies shall be entitled to examine all the documents, including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

Clause.9. Law and Place of Jurisdiction

Both the Parties agree that this Pact is subject to Indian Law. The place of performance and hence this Pact shall be subject to Delhi/ NCR Jurisdiction.

Clause.10. Other legal Actions

The actions stipulated in the Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

Clause.11. Validity and Duration of the Agreement

This Pact begins when both parties have legally signed it. It expires for the Contractor/Successful bidder 12 months after the last payment under the contract or the complete execution of the contract to the satisfaction of the both AIIMS RAIPUR and the BIDDER /Seller, including warranty period, whichever is later, and for all other Bidders/unsuccessful bidders 6 months after the contract has been awarded. If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged / determined by Chairman and Managing Director/ CEO of AIIMS RAIPUR.

Clause.12. Other provisions

12.1 Changes and supplements as well as termination notices need to be made in writing. Both the Parties declare that no side agreements have been made to this Integrity Pact.

12.2 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

12.3 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions

IN WITNESS THEREOF the parties have signed and executed this pact at the place and date first above mentioned in the presents of following witnesses:

Signature of Competent Authority of AIIMS RAIPUR	Signature of the Authorized signatory on behalf of Bidder
Seal	Seal
Signature, name & designation of Witness	Signature, name & designation of Witness
1…….....	1……
2……	2…….....