

e-Notice Inviting Tender for

Renovation of Transplant ICU at AIIMS, Bhubaneswar

(File No. : **AIIMS/BBSR/SURG GASTRO/LT/01/2022(Pt.-01)** refers)



अखिल भारतीय आयुर्विज्ञान संस्थान,
All India Institute of Medical Sciences
Engineering Branch, Bhubaneswar(Odisha)-751019
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e-NIT No. : **AIIMS/BBSR/ENGG/ACR/NIT/36**
e-NIT Issue Date : 21/06/2024
Last Date of Submission : 12/07/2024 (By 1230 Hours)
(online)
Last date of submission : 15/07/2024(By 1500 Hours)
(Hard copy)

“Certified that, this tender document contains **102 (One Hundred Two)** pages only”.

Executive Engineer (AC & R)
AIIMS, Bhubaneswar

Name of Work : Renovation of Transplant ICU at AIIMS, Bhubaneswar

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ALL INDIA INSTITUTE OF MEDICAL SCIENCE, BHUBANESWAR
NOTICE INVITING e-TENDER

(a)	Name of Work	<u>Renovation of Transplant ICU at AIIMS, Bhubaneswar</u>
(b)	Tender (e-NIT) No.	AIIMS/BBSR/ENGG/ACR/NIT/36
(c)	Contract Period	180 Days
(d)	Estimated Cost	₹4,76,08,365/- (Rupees Four Crores Seventy-six Lakhs Eight Thousand Three Hundred Sixty-five)
(e)	Earnest Money Deposit (EMD)	2% of Estimated cost (₹9,52,167/-)
(f)	Performance Security	5% of Tendered Cost.
(g)	Security Deposit	2.5% of the Billed amount.
(h)	Tender documents will be Issued From	Download from Institute Website. (i.e. www.aiimsbhubaneswar.nic.in , www.eprocure.gov.in).
(i)	For queries related to the tender	Email to eeacr@aiimsbhubaneswar.edu.in
(j)	Last Date and Time of Submission (online)	By 12/07/2024 at 1230 Hours.
(k)	Last Date and Time of Submission (Hard copy)	By 15/07 /2024 at 1500 Hours.
(l)	Date, Time for opening of Technical Bid	On 15/07/2024 at 1600 Hours.
(m)	Pre-bid meeting	On 01/07/2024 at 15:30 Hours in the Director Mini Board Room, 1st Floor, Admin Building, AIIMS, Bhubaneswar

1. The indenting Bidder must read the Terms & conditions of AIIMS, Bhubaneswar carefully. He/They should only submit his/her/their bid if he/she/they consider himself/themselves eligible and he/she/they is/are in possession of all the documents required.

2. Information and Instructions for bidders posted on website shall form part of bid document.

3. The Bid documents consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms & conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website www.aiimsbhubaneswar.nic.in Or <https://eprocure.gov.in/eprocure/app>.

Executive Engineer (AC & R)
AIIMS, Bhubaneswar

INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR e-TENDERING

The Executive Engineer (AC & R), AIIMS, Bhubaneswar invites on behalf of Executive Director, AIIMS, Bhubaneswar, Percentage Rate Tender from firms/contractor of repute in Two (02) Bid system (Technical & Financial respectively) from approved/registered and eligible contractors of CPWD, AIIMS, State PWD like and other eligible firms having successfully completed works of similar nature as per eligibility condition and for the Work as per the details as follows:

Ser. No.	Description	Details
(a)	e-NIT No.	AIIMS/BBSR/ENGG/ACR/NIT/36
(b)	Name of Work	<u>Renovation of Transplant ICU at AIIMS, Bhubaneswar</u>
(c)	Estimated Cost	₹4,76,08,365/- (Rupees Four Crores Seventy-six Lakhs Eight Thousand Three Hundred Sixty-five)
(d)	Earnest Money	2% of Estimated cost (₹9,52,167/-)
(e)	Period of Completion	180 Days
(f)	Last Date and Time of Submission (online)	By 12/07/2024 at 1230 Hours.
(g)	Last Date and Time of Submission (Hard copy)	By 15/07/2024 at 1500 Hours.
(h)	Date, Time for opening of Technical Bid	On 15/07/2024 at 1600 Hours.
(i)	Time and date of opening of Online Financial Bids	To be intimated later through website
(j)	Period during which hard copies of Tender document duly signed by the bidder in all pages, Registration Certificates, Undertaking and other Documents to be submitted to the Office of EE (AC & R)	All the Bidders shall have to submit hard copies of Tender document duly signed by the bidder in all the pages and Self Certified copies of other Eligibility Documents in the Office of Executive Engineer (AC & R) within Last date of hard copy submission failing which the bid may be rejected. Postal delay will not be attributed to AIIMS.

- The intending bidder must read the terms and conditions of Tender document carefully. He should submit his bid if he considers himself eligible and he is in possession of all the certificates / documents required.
- Information and Instructions for bidders for e-tendering posted on website shall form part of bid document.
- The bid document consisting of e-NIT, 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 <https://eprocure.gov.in/eprocure/app> or www.aiimsbhubaneswar.nic.in free of cost.
- For e-Tendering of this Tender, kindly visit website <https://eprocure.gov.in/eprocure/app> .
E-Tendering Portal: <https://eprocure.gov.in/eprocure/app>
For E-tendering Queries contact CPPP Help Desk.**
- The intending bidders must have valid class-III digital signature to submit the bid.
- The bid can be submitted through CPP portal and uploading the mandatory scanned documents as specified within the period of bid submission.
- Copies of eligibility documents as specified in the notice inviting tender shall be scanned and uploaded on the e-tendering website within the period of tender submission. Bidders can upload documents in the form of JPG format, PDF format and any other format as permissible by the e-tendering portal.
- Contractor must ensure to quote the percentage rate in Performa of quoting rates. In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0". Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (Zero). However, if a tenderer does not quote any percentage above/below on the total amount of the tender or any section/sub head in percentage rate tender or each item in item rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.
- GST on all materials as well as GST on Work Contract etc., or any other taxes applicable in respect of this contract shall be payable by the Contractor. Percentage rate quoted by him shall be inclusive of such taxes, levies etc and Government will not entertain any claim for reimbursement whatsoever in respect of the same. The percentage rates of the contract shall be inclusive of all taxes and levies and nothing extra shall be paid. Further the percentage rate quoted by the contractor shall be inclusive of labor welfare cess, water charges (if applicable), electricity charges (if applicable) and the same shall be recovered from the contractors' bills and will be remitted by the department.

10. After submission of bid online, it can be revised any number of times before specified time on last date of submission of bid. While submitting the revised bid, bidder can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of bid as notified.
11. Financial bids shall be opened online only for bidders for whom EMD and other documents are found in order and who are found to be eligible to bid for work. On opening date, the bidder can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.
12. If the contractor is found ineligible after opening of bids, his bid shall become invalid.
13. If any discrepancy is noticed between the eligibility documents as uploaded at the time of submission of bid and hard copies as submitted physically by the bidder, the bid shall become invalid and.
14. **FRAUD AND CORRUPTION:**
- 14.1 The Engineer-in-Charge will reject a proposal for award if he determines that the bidder recommended for award has been engaged in corrupt or fraudulent practices in competing for the contract in question. He will report to the Officer Inviting Bid / next higher authority.
- 14.2 Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited & the tenders submitted by the contractors who resort to canvassing will be liable for rejection.
- 14.3 The Contractor shall be debarred for any period of time as decided by the AIIMS, Bhubaneswar Authority for the following reason-
- (i) If the contractors submit false experience/completion certificates, **as mentioned in Ser. No. - 4(a), Page No. - 6 (refer under Eligibility Criteria)**. The department reserves the right to verify the particulars furnished by the applicant independently.
 - (ii) If the contractor fails to commence the work on or before the scheduled date stated in the work order.
 - (iii) Violates any important condition of contract.
15. **List of Eligibility Documents to be uploaded and signed Hard Copy to be submitted in the office of the Executive Engineer (AC & R) within the period of bid submission else the bid will be rejected: -**
- (a) Original Copy of EMD in the form Demand Draft (DD) in favor of **AIIMS Bhubaneswar** payable at **Bhubaneswar**.
 - (b) Certificates of Work Experience & Completion Certificate during last **07 (Seven) Years** of Similar work from Client not below the Rank of Executive Engineer, as mentioned in Ser. No. - 4(a), Page No. - 6 (refer under Eligibility Criteria).
 - (c) Certificate of Registration for GST.
 - (d) Copies of Contractor's License, NSIC/MSME/any registration from state/central Govt./Govt. Organisation.
 - (e) Copies of ESI Registration.
 - (f) Copies of EPF Registration.
 - (g) Declarations to be given by the Tenderers (Annexure 'A')
 - (h) Detailed Information of Bidder (Annexure 'B') and details of work completed during last 07 (seven) years (Annexure 'C') signed by the Bidder.
 - (i) Notarized Affidavit at Annexure D and E to be given by Tenderers.
 - (j) Signed (in all pages) e-NIT document.
- Failing to upload documents in online (from a to k) will be straight away rejected. Hard Copies of all tender documents (from a to j) with signature/seal of agency/contractor should reach EE (AC & R), AIIMS, Bhubaneswar office before last date of hard copy submission failing which bid may be rejected. Any postal delay will not be attributed to AIIMS, BBSR.
16. *Conditional Bid(s) will be treated as unresponsive and will be rejected.*
17. Information & Instruction for Contractor will form Part of e-NIT.

**Executive Engineer (AC & R),
AIIMS, Bhubaneswar**

GENERAL RULES & DIRECTIONS

Executive Engineer (AC & R), AIIMS, Bhubaneswar invites on behalf of Executive Director, AIIMS, Bhubaneswar Percentage Rate Tender from Firms/Contractor of reputed/experienced Registered Contractors/Firms and other eligible firms having successfully completed works of similar nature as per eligibility conditions.

1. Name of Work: Renovation of Transplant ICU at AIIMS, Bhubaneswar

2. The work is estimated ₹ **4,76,08,365/- (Rupees Four Crores Seventy-six Lakhs Eight Thousand Three Hundred Sixty-five)**. The estimate, however, is given merely as a rough guide.

3. Intending Bidder is eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority of having satisfactorily completed similar works. Bidders are instructed to visit the site before participating the tender to know the nature of work before participating in the tender.

4. **Eligibility Criteria.** Contractor who fulfill following requirement shall be eligible to apply: -

- (a) Three (03) similar works, each of value **not less than 40%** of estimated cost put to tender or Two (02) similar works each of value **not less than 60%** of estimated cost put to tender or one (01) similar work of value **not less than 80%** of estimated cost put to tender in ***last 07 (Seven) Years*** ending **31st March, 2024.**

Similar work means **“SITC of ICU/BMT ICU/Modular Operation Theatre at any Government Hospital.”**

(b) The Bidder should have registration with **Employee Provident Fund (EPF) Commissioner** and **Employee State Insurance (ESI) Corporation.**

(c) The experience of similar work should be from Central Govt., State Govt., PSU and Govt. Autonomous Body.

(d) Agreements shall be drawn with the successful bidders for item/items on prescribed format. Bidders shall quote their percentage rates as per various terms and conditions of the said form which will form part of the agreement.

(e) The site for the work is available.

(f) The bid document consisting of plans, specifications, the schedule of quantities of the various type of items to be executed and the set of terms & conditions of the contract to be complied with and other necessary documents.

(g) Conditional Bids shall not be considered and will be out-rightly rejected at the very first instance.

(h) Average Annual Financial, the turnover during the last 3 years, ending 31st March 2023 should be at least 30% of the estimated cost.

5. **Preparation & Submission of Tender through Online.** The tender should be submitted in 02(Two) Bids i.e Technical Bid and Financial Bid respectively. The Technical Bid & Financial Bid should be uploaded by the Bidder through Online. However, the Hard copy of Technical Bid to be submitted in the office of Executive Engineer (AC & R) before the last date of submission of Tender.

6. **Earnest Money Deposit.** The bidder shall be required to submit the Earnest Money Deposit (EMD) for an amount of **2% of Estimated** cost by way of Demand Draft/Bank Guarantee/FDR only in favour of **AIIMS Bhubaneswar** payable at **Bhubaneswar**. Original Copy of the Demand Draft/Bank Guarantee/FDR must be uploaded/attached with the technical Bid. The EMD of the Successful Bidder shall be returned after the successful submission of Performance Security and for unsuccessful bidder's it would be returned after award of the contract. Bid's received without EMD will be rejected.

(i) As per SOP No.5/1 & Clause No.6 of CPWD Manual-2022 the MSME firms registered in NSIC under PP policy are exempted from payment of EMD for supply of Goods & **Services** only.

(ii) Micro and small Enterprises if registered with any government bodies specified by Ministry of Micro, Small & Medium Enterprises (M/o MSME) with valid certificate duly issued by GOI are exempted for submitting earnest money deposit (EMD).

(iii) Other Firms, registered with MSME/NSIC with valid certificate duly issued by GOI are also exempted for submitting EMD. No other type of certificate is acceptable.

(iv) The exemption and relaxation in EMD is subject to the validity & acceptance of their registration certificate on the date of opening of tender.

7. **Performance Guarantee.** The successful contractor will be required to furnish a **Performance Guarantee of 05% (five Percent) of Contract Value** after receiving notification of award ***in the form of Fixed Deposit Receipt or Demand Draft or Bank Guarantee from any Nationalized Bank duly pledged in the name of the "All India Institute of Medical Sciences, Bhubaneswar"*** which shall be kept valid for a period of 60 days beyond completion of all the contractual obligations. The Performance Guarantee can be forfeited by order of this Institute in the event of any breach or negligence or non-observance of any condition of contract or for unsatisfactory performance or non-observance of any condition of the contract. ***PG will be released after full and final settlement of Bill, without any interest.*** In case the contractor fails to deposit the said Performance Guarantee within the period including the extension period if any, EMD will be forfeited automatically without any notice.

8. Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost, all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions.

9. The Tender paper/documents can be seen/ downloaded from Official website & submitted through Online or Site. For any query, Executive Engineer (AC & R), AIIMS, Bhubaneswar, may be contacted.

10. The competent authority on behalf of the Executive Director, AIIMS, Bhubaneswar does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidder shall be summarily rejected.

11. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable to rejection.

12. The Competent Authority, The Executive Director, AIIMS, Bhubaneswar reserves to himself the right of accepting the whole or any part of the bid and the bidder shall be bound to perform the same at the rate quoted. Some of the items of the Schedule of Quantities may be executed partially or may not be executed at all depending upon the site requirement which will be decided by Engineer in charge.

13. The contractor shall not be permitted to bid for works in the AIIMS, Bhubaneswar responsible for award and execution of contracts, in which his near relative is posted as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazette officer in the AIIMS, Bhubaneswar. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.

14. No Engineer of Gazetted Rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing.

This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the bid or engagement in the contractor's service.

15. The bid for the works shall remain open for acceptance for a period of 75 days from the date of opening of bids.

16. **The Agency shall submit Post Card size Coloured Photographs showing different stages of construction activities at his own Cost.**

17. This notice inviting bid shall form a part of the contract document. The successful bidder/ contractor, on acceptance of his bid by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of "The Notice Inviting bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and rate quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.

18. (a) **Security Deposit equal to 2.5% of the billed Value will be deducted from the Bills of the Contractor .**

(b) **The Income Tax & GST as applicable shall be deducted from the Bill unless exempted by the Income Tax Department.**

(c) **The quoted Rates shall be inclusive of GST.**

(d) **Labour CESS @ 01% will be deducted from the Bill.**

(e) **Electrical charges as per actual meter reading shall be deducted from the bill. If connection is taken directly without installation of meter with prior permission from Executive Engineer (Electrical), then amount as per the usage shall be deducted from the gross bill amount as suggested by Executive Engineer (Electrical).**

(f) **Water Charges @ 1% of the Gross Bill Amount will be deducted, if water Supply is taken from, AIIMS, BBSR**

19. **All the work shall be completed within 180 Days from the date of issue of work Order by the Institute. All the aspects of safe installation shall be the exclusive responsibility of the Contractor. If the contractor fails to complete the work on or before the stipulated date, then a penalty at the Rate of 01% per month of delay to be computed on per day basis based on quantum of damage suffered due to stated delay on the part of the contractor (as per GCC – 2020) shall be levied subject to maximum of 10% of the accepted tendered valued of the work.**

20. **List of Documents to be submitted along with the Technical Bid and hard copy to be submitted in the office of EE(AC & R) as per P-5, SL no- 15(a) to (j).**

21. The condition of the contract shall be governed by CPWD GCC-2020 and corrected up to latest correction slip.

22. **Goods & Service Tax (GST).**

(a) **General remarks on Taxes & Duties. In view of GST Implementation from 01st Jul 2017, all Taxes and Duties including Excise Duty, GST/VAT, Service Tax, Entry Tax and other indirect Taxes and Duties have been submerged in GST. Accordingly, reference of Excise Duty, Service Tax, VAT, Entry or any other form of Indirect Tax except of GST mentioned in the Bidding Documents shall be ignored.**

(b) **Bidders are required to submit copies of the GST Registration Certificate while Submitting the Bids wherever GST (CGST & SGST/UGST or IGST) is applicable.**

(c) **Quoted Price/Rate(s) should be inclusive of All Taxes and GST (i.e. IGST or CGST and SGST/UTGST applicable in case of Inter-State supply or Intra State Supply Respectively and CESS on GST if applicable) on the Final Service. Please note that the Responsibility of Payment of GST (CGST, SGST, IGST or UTGST) lies with the supplier of Goods/Services (Service Provider) only. Supplier of Goods/Service (Service Provider) providing Taxable Service shall submit an Invoice/Bill, as the case may be as per Rules/Regulations of GST. Further, Returns and details required to be filled under GST Laws & Rules should be timely filled by Supplier of Goods/Service (Service Provider) with requisite details.**

(d) **The supplier/Contractor/Firm is advised to comply all the GST Norms as per Rules. Accordingly, Supplier/Contractor/Firm is to submit the Original Challan/Voucher justifying that it has been actually and genuinely paid to the Govt. at the time of submission of Bills to Finance Wing for release of Payments.**

23. The Agency shall be solely responsible for compliance to the provisions of various Labour and industrial laws, such as, wages, allowances, compensations, EPF, Bonus, Gratuity, ESI etc. relating to personnel deployed by it at AIIMS, Bhubaneswar site or for any accident caused to them and the institute shall not be liable to bear any expense in this regard. The Agency shall make payment of wages to workers engaged by it by the stipulated date irrespective of any delay in settlement of its bill by AIIMS, Bhubaneswar for whatever reason. The Agency shall also be responsible for the insurance of its personnel. The Agency shall specifically ensure compliance of various Laws / Acts, including but not limited to with the following and their re-enactments / amendments / modifications: -

(a) The Payment of Wages Act 1936.

(b) The Employees Provident Fund & MP Act, 1952.

- (c) The Contract Labour (Regulation) Act, 1970.
- (d) The Payment of Bonus Act, 1965.
- (e) The Payment of Gratuity Act, 1972.
- (f) The Employees State Insurance Act, 1948.
- (g) The Employment of Children Act, 1938.
- (h) The Motor Vehicle Act, 1988.
- (j) Minimum Wages Act, 1948.

24. Termination of Contract.

AIIMS, Bhubaneswar would have the right to terminate the contract, in case the work performance is not up to the standard, or in case there is any violation of AIIMS, Bhubaneswar rules & regulations, or if there is any lapse in compliance of any labour legislation, or if there is any incident of indiscipline on the part of the Tenderer or his staff and the agreement may be terminated. The decision of AIIMS, Bhubaneswar's management in this regard would be final and binding on the Tenderer. In such an event, AIIMS, Bhubaneswar shall have the right to engage any other tenderer to carry out the task.

25. Arbitration.

The Arbitration shall be held in accordance with the provision of the Arbitration and conciliations Act, 1996 and the venue of arbitration shall be at Bhubaneswar. The decision of the Arbitrator shall be final and binding on the both parties.

26. Dispute Settlement.

It is mutually agreed that all differences and disputes arising out of or in connection with this agreement shall be settled by mutual discussions and negotiations if such disputes and differences cannot be settled and resolved by discussions and negotiations then the same shall be referred to the sole Arbitrator appointed by the Executive Director, AIIMS, BHUBANESWAR whose decision shall be final and binding on both the parties. The contract shall be governed by laws and procedures established by Govt. of India, within the framework of applicable legislation and enactment made from time to time concerning such commercial dealings/ processing.

27. The eligible bidders shall quote percentage rates after considering all the major as well as minor components. The Lowest Bidder will be decided as per the percentage quoted.

28. Payment:

(a) 70% payment will be released after supply of material & due verification of material by Engineer-in-Charge or his representative and balance 30% of the payment shall be released after completion of work. The deduction of 2.5% towards security deposit and other deduction towards taxes as per Government of India/AIIMS rule will be made from the bill.

(b) It will be mandatory for the bidders to indicate their bank account number and other relevant e-payment details so that payment could be made through RTGS/ Other mechanism.

29. GST and other Taxes as applicable shall be recovered/ paid from the contractor's bill as per Govt. of India/AIIMS Rules.

30. Defect Liability Period:

The DLP for this work is 01 year . During this period the agency is responsible for rectifying any defects or faults that may arise without any extra cost.

31. Vendor shall submit the following documents after execution of given work:

- (a). Work Completion Certificate (Final Bill)
- (b). Testing & Commissioning Certificate
- (c). Material Test Certificate
- (d). Warranty/Guarantee Certificate
- (e). Colour Photos for executed work on glossary paper
- (f). Non-Claim Certificate (NCC) regarding work
- (d). GST return up to date Voucher
- (e). Bank Account Details
- (f). 36(i) Certificate for engagement of Technical Staffs

32. All the electrical work shall be carried out by an agency having valid Electrical Contractor License MV or above or else the agency should comply the CPWD Clause No.6.5 of rule of enlistment of contractor in CPWD-2022.

Executive Engineer (AC & R)
AIIMS, Bhubaneswar

SPECIAL CONDITIONS OF CONTRACT

Name of Work : **Renovation of Transplant ICU at AIIMS, Bhubaneswar**

1. **Discrepancy between Specifications.** In case of discrepancy in the specifications or any other matter, the matter shall be brought by the contractor to the notice of the Engineer-in-Charge for further decision.
2. **Contractor to employ Qualified Supervisor.** The contractor shall employ Skilled Engineer/Supervisor to supervise and execute the work.
3. **Inconvenience to the Public.** The Contractor shall not deposit or store any materials at any site without permission of the Engineer in charge. The materials will be stored at such places only with prior approval of the Engineer in charge as there is no obstruction in Traffic or other Agencies.
4. **The provision against Accident & Safety Measures.**
 - (a) The Contractor will take all necessary precautions against a Fire during the course of his work and will ensure the work against Fire at his own cost.
 - (b) He will also take all care against likely damage of Floor, Walls, Doors, Windows or any part of the Building. In case of any damage or loss, the contractor has to make good at his own cost.
5. **Specifications.** The work shall be carried out as per CPWD Specifications Volume I & II 2019 with up to date correction slips. The contractor should be well aware of these specifications before quoting the rates in Financial Bid for the subject tender. In the absence of specifications for any work or material, relevant Indian Standard (ISI) Specification shall be applicable.
6. **Cleaning the Site.** The site described and shown on the plans, shall be cleared off all the rubbish of all kinds etc. complete. After completion of the work and the site shall be handed over in neat and clean condition.
7. **Secrecy.** In a view to safeguard the Secrets & Confidential information relating to All India Institute of Medical Science, Bhubaneswar, the Tenderer binds himself and his successors to secrecy & contracts to bind to secrecy of his Officials, Managers, Technical Senior Staff & all other staff directly or indirectly concerned in or whom have to acquire information relation to the AIIMS, Bhubaneswar equipment and the Tenderer shall access to any such information.
8. **Security Rules.** The Contractor shall follow at Site Security rules regarding removal of materials from site, issue of materials from site, issue of materials from stores, issue of Identity Card etc., as may be framed from time to time by the Engineer. It is to note that the Security Section is empowered to carry out the checks.
9. **Care in case of occupied buildings.** Tenderer may also note that when the subject work is to be carried out in the premises of occupied residential and other buildings which are already under occupation, all care shall be taken to protect personal and/or Government materials fixtures, appliances, equipment's etc. In case of any damage to any of the existing arrangements, contractor is liable to do such work to its original and/or shall be liable to pay the cost of such damages/losses. The work shall be carried in close co-ordination with occupants of these buildings without any hindrance and interruption.
10. **Supply of Tools, Tackles & other materials.** For full completion of the work, Contractor shall at his own expense arrange and furnish all necessary work tools, tackles, scaffolding, tagaries, mugs, scrappers, wire brushes etc., that may be required to complete the work under contract.
11. **Inspection of Work.** Engineer or any person appointed by them shall have access and right to inspect the work, or any part thereof at all times and places during the progress of the work. The inspection and supervision is for the purpose of assuring owner and/or Engineer in charge and their representative will extend to contractor all desired assistance in interpreting the plans and specifications, all such assistance shall not relieve contractor from any responsibility for the work. Contractor without delay shall correct any work, which proves faulty.
12. **Wastage.** The contractor should note that wastage of any items shall not be paid extra. The items shall be paid based on the executed work at site. All coefficients shall be as per relevant IS code.

13. Contractor shall take all precautionary measures to avoid any damages to adjoining property. All necessary arrangement shall be made at his own cost.
14. The contractor shall take instructions from the Engineer-in-Charge regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed.
15. Normally, Contractors shall not be allowed to work at night. Work at night shall, however, be allowed if the site condition/circumstances so demand. However, if the work is carried out in more than one shift or at night, no claim on this account shall be entertained. In such situations, the Contractor shall make available to the department in proper means of transport such as vehicle at his own cost.
16. The contractor shall be responsible for the procurement of all the materials required to complete the work.
17. The contractor shall be deemed to have examined the Contract documents, to have generally obtained his information in all matters whatsoever that might affect the carrying out the works at the quoted rates and to have satisfied himself to the sufficiency of the tender. Any error in description or quantity or any other aspect in quoted rates or omission there from shall not vitiate the contract or release the contractor from executing the work comprised in the contract as per drawing and specification at the scheduled rates. He is deemed as an experienced contractor to know the scope, nature and magnitude of works and the requirements of material and labour and the type of work involved, etc. and as to what all work he has to complete in accordance with contract document whatever be the defects, omissions or errors that may be found in the contract document. The contractor shall be deemed to have visited the site and its surroundings to have satisfied himself as to the nature of all existing structures, if any and also to the nature and means of transport and communication to have access to and regress from the site.
18. All materials issued in the works shall be subjected to inspection and tests if required by Engineer in charge. Samples required for approval and testing must be supplied with sufficient time allowed for testing and approval. Materials shall be tested on site if required by Engineer in Charge and they may be rejected if found not suitable or not in accordance with the specification or Test certificate or any approval given earlier. The contractor shall carry out necessary test as per the direction of Engineer in charge in approved NABL/ Govt. laboratories. **The expenses towards all such tests are to be borne by the contractor at his own cost.** Tests shall be conducted as per relevant Indian Standard Specifications.
19. All manufacturer's certificates of tests showing that the material has been tested in accordance with the requirement of the appropriate Indian standard, other relevant specification is to be supplied free of charge.
20. All Electrical Connections/Wirings etc. (if required) for the work shall have to be taken from the nearest source with prior permission from Executive Engineer (Electrical). All expenses on this account shall be borne by the contractor. The electrical expenses shall be charged based on the meter reading. If connection is taken directly without installation of meter, then then amount as per the usage of electrical equipment shall be deducted from the gross bill amount as suggested by Executive Engineer (Electrical).
21. Water if available may be supplied to the contractor by the department subject to the following conditions: -
(i) The water charges @ 1 % of the gross bill amount shall be recovered on gross amount of the work done if it is taken departmentally.
(ii) The contractor(s) shall make his/their own arrangement of water connection and laying of pipelines from existing main of source of supply at his own cost.
(iii) The Department do not guarantee to maintain uninterrupted supply of water and it will be incumbent on the contractor(s) to make alternative arrangements for water at his/ their own cost in the event of any temporary break down in the Government water main so that the progress of his/their work is not held up for want of water. No claim of damage or refund of water charges will be entertained on account of such break down.
22. The contractor shall engage necessary staffs/ technical person as per Clause 36(i) of Schedule 'F' as per this tender document. The name, qualification and technical experience of the contractor representative shall be submitted to the Engineer in charge before start of the work. Violation of this clause will lead to non-compliance and recovery will be made as per Clause 36(i) of Schedule 'F'.
23. Required safety measures is to be adopted before starting chipping/scaffolding works so that any inconvenience may not be faced.

24. LIST OF APPROVED MAKE OF MATERIALS

Specification/brands/names of materials (Refer materials, whichever are applicable for the scope of work) and finishes approved by the Engineer-in-Charge are listed below. However, approved equivalent material and finishes of any other specialized firms may be used, in case it is established that the brands specified below are not available in the market but only after approval of the alternate brand by the Engineer-in-Charge.

SL. NO.	MATERIAL	MANUFACTURER
1.	ANTI TERMITE TREATMENT	
1.1	CHLORPYRIPHOS / LINDANE	SRCHLORO, DURSBAN, GIBRALTOR, TERRASHIELD
2.	STRUCTURAL BUILDING MATERIALS	
2.1	ORDINARY PORTLAND CEMENT /POZZOLONA PORTLAND CEMENT	ACC, ULTRATECH, AMBUJA, JAYPEE
2.2	WHITE CEMENT	BIRLA WHITE, JK WHITE, ACC
2.3	REINFORCEMENT BAR (THERMO MECHANICALLY TREATED) /STRUCTURAL (AS PER IS:1786, IS:226)	TATA, SAIL, RASTRIYA ISPAT NIGAM LTD., JINDAL STEEL & POWER LTD., JSW STEEL LTD.
2.4	STRUCTURAL STEEL SUCHAS MS FLATS, SQ. BARS ANGLES, ETC. INCLUDING TUBES	SAIL, TATA STEEL, RINL, JINDAL STEEL & POWER LTD. AND JSW STEEL LTD.
2.5	HOLLOW STEEL SECTIONS	JINDAL INDUSTRIES HISAR, TATA STEEL, SAIL
2.6	PARALLEL THREADED COUPLERS AS PER IS:16172: 2014	DEXTRA, HALFEN, MOMENT, G-TECH
2.7	MONOLITHIC ALUMINUM FORM WORK	S-FORM, KUMKANG, MAINI SCAFFOLD SYSTEM, MFE FORM SYSTEM
2.8	SS CRAMPS	HILTI, FISCHER, BOSCH, EJOT
2.9	REBARRING CHEMICAL	BOSCH, 3M INDIA, BIRLA, HILTI
2.10	CURING COMPOUND	FOSROC, SIKKA, CICO, BASF, PIDILITE, STP
2.11	MICRO CONCRETE	FOSROC, SIKKA, DUBOND, BUILTECH
2.12	READYMIX CONCRETE	ULTRATECH, RMC, ACC.
2.12	HIGH PERFORMANCE EPOXY BASED RESIN ANCHOR SYSTEM	BASF, MYK SCHOMBURG, FOSROC, CICO
2.13	DAMP PROOF MATERIAL	DR. FIXIT, FOSROC, CICO, MYK, CIKA, PIDILITE
2.14	PT STRANDS	DP, TATA, USHA MARTIN.
2.15	STRUCTURAL GLAZING	MODI, SAINT GOBAIN, ASAHI
3.	AAC BLOCK MASONRY	
3.1	AAC BLOCK	ULTRATECH, BILTECH, AEROCON, BIRLA
3.2	POLYMER MODIFIED ADHESIVE FOR AAC BLOCKS	FERROUSCRETE, WEBER, ULTRATECH, JK, MODCRETE, MYK LATICRETE
3.3	GROUT COMPOUND / EPOXY GROUT	FOSROC, CICO, DR. FIXIT, SIKKA.
4.	FINISHING	
4.1	PREMIUM ACRYLIC EMULSION PAINTS	BERGER PAINT(SILK), ASIAN PAINT(ROYAL), ICI DULEX(VELVET TOUCH), NEROLAC (IMPRESSION)
4.2	OIL BOUND WASHABLE DISTEMPER	ASIAN PAINTS DULUX, NEROLAC, BERGER
4.3	ACRYLIC DISTEMPER	ASIAN PAINTS, DULUX (SUPERCLEAN), BERGER
4.4	CEMENT PRIMER (EXTERIOR)	WEATHERCOAT EXTERIOR PRIMER WITH ALKALI GUARD (BERGER), PRIMERO (ASIAN), DULUX, AKZONOBEL, ICI.
4.5	CEMENT PRIMER (INTERIOR)	BP WHITE (BERGER), DECOPRIME WT (ASIAN), NEROLAC
4.6	STEEL PRIMER	ICI, NEROLAC, ASIAN PAINTS, DULUX, NEROLAC, ASIAN PAINTS, BERGER, JENSON & NICHOLSON
4.7	WOOD PRIMER	ICI, NEROLAC, ASIAN PAINTS (WHITE)
4.8	TEXTURED EXTERIOR PAINT	BAKELITE HYLAM LTD, ICI (WEATHER SHIELD WITH HONEY COMB ROLLER FINISH, KANSAI, AKZONOBEL, UTRATECH PAINTS, HERITAGE, LEXTURE, SPECTRUM, ULTRATECH, SKK SAMKEN

4.9	PERFORMANCE COATING FOR FIRE PROTECTION	AKZO NOBEL COATINGS INDIA LTD., PROMAT, JOTUN, ASIAN PAINTS
4.10	FIRE SEALANT	SIKA, 3M INDIA, WACKER, HILTI
4.11	WATER PROOFING CEMENT PAINT	ASIAN PAINTS, BERGER(DUROCEM EXTRA), NEROLAC(NEROSEM WITH TITANIUM)
4.12	SYNTHETIC ENAMEL PAINT	BERGER, ASIAN PAINTS, ICI, J&N, NEROLAC
4.13	EPOXY PAINT	KANSAI NEROLAC, FOSROC, ASIAN, AKZONOBEL (DULUX)
4.14	FIRE INTUMESCENT PAINT	JOTUN, ASIAN, AKZONOBEL, BERGER
4.15	FRENCH SPIRIT / MELAMINE POLISH	ASIAN PAINTS, WUDFIN OF PIDILITE, BERGER, NIPPON, POLYCURE.
4.16	WALL PUTTY	BIRLA WALL CARE, JK WHITE, BISON WALL PUTTY BY BERGER, ASIAN WALL PUTTY
4.17	POLYMER MODIFIED READY MIX PLASTER	GYPROC INDIA (WEBER SET), FERROUSCRETE (INSTA PLAST), ULTRATECH (RADIO MIX),
4.19	POLYMER MODIFIED SELF CURING PLASTER	FERROUSCRETE, ULTRATECH, SAINT GOBAIN, MYK
4.20	RED OXIDE ZINC CROMATE PRIMER & ZINC RICH PRIMER	DULUX, ASIAN, BERGER, NEROLAC,
4.21	ACRYLIC SMOOTH EXTERIOR PAINT	ASIAN, DULUX, NEROLAC, BERGER,
5.	FLOORING	
5.1	VITRIFIED TILES	SOMANY, JOHNSON, KAJARIA
5.2	FULL BODY VITRIFIED	KAJARIA, JOHNSON, SOMANY
5.3	CERAMIC FLOOR TILES/WALL TILES	SOMANY, JOHNSON, KAJARIA
5.4	WHITE GLAZED TILES	SOMANY, JOHNSON, KAJARIA
5.5	EPOXY FLOORING	FLOWCRETE, BASF, FOSROC
5.6	HEAT RESISTANT TILES	SOMANY, KAJARIA, JOHNSON
5.7	WOODEN LAMINATE FLOORING	ARM STRONG, PERGO, MIKASA
5.8	PVC VINYL FLOORING	TARKETT, POLYFLOR, GERFLOR ARMSTRONG, FORBO, ARMSTRONG, LG
5.9	ANTI STATIC VINYL FLOORING	TARKETT, POLYFLOR, GERFLOR ARMSTRONG, FORBO, ARMSTRONG, LG
5.10	CARPET FLOORING	OCEANZ ACOUSTICS/ WELSPUN/ INTERFACE FLOOR/ FLOTEX / MOHAWK/ UNITEX ARCHEX, BVG INDUSTRIES, PUNEET INDIA PVT LTD, TUNTEX
5.11	HARDWOOD FLOORING	IFS, PUNEET INDIA, PIXEL
5.12	TACTILE TILES	SOMANY, KAJARIA, JOHNSON
5.13	TACTILE TILES (STEEL)	KICH, KONCEPT STEEL, JINDAL STEEL
5.14	PAVING TILE	SOMANY, KAJARIA, JOHNSON, ULTRA
5.15	FALSE FLOOR	UNIFLOOR, UNITILE, CAMFLOR
5.16	MOSAIC / CHEQUERED TILES	BISAZA, BIRLA WHITE, JK WHITE.
5.17	CEMENT CONCRETE TILES (DESIGNER TILES)	GICO (ISI), ULTRA, EUROCON, HINDUSTAN TILES.
5.18	WOOD POLYMER FLOOR (WPC)	EUROWOODS WONDER FLOOR ACTION TESA PERGO
5.19	NON-METALLIC FLOOR HARDENER (DRY SHAKE TOPPING)	MC BAUCHEMIE (INDIA), FOSROC, HUNTSMAN, BASF
5.20	GRASS PAVER	UNISTONE, ULTRA / or Equivalent
6.	FALSE CEILING	
6.1	GYPSUM BOARD /GLASS REINFORCED GYPSUM BOARD FALSE CEILING	ST. GOBAIN, USG BORAL, ARMSTRONG, DIAMOND CEILING, AEROLITE.
6.2	SALON SLATS PLUS FALSE CEILING	ANUTONE, ARMSTRONG OR EQUIVALENT
6.3	METAL FALSE CEILING, METAL PANEL WITH TECHNICAL PANEL FALSE CEILING, ACOUSTICAL CLOUDS FALSE CEILING, WOODWORK CEILING PANELS FALSE CEILING, MINERAL FIBRE CEILING SYSTEM	ARMSTRONG, DURLUM, LINDNER

6.4	FALSE CEILING- GYPSUM	USG BORAL, GYPROC, SAINT GOBAIN, USG- BORAL
6.5	FALSE CEILING- ALUMINIUM METAL TILES & PLANKS	ARMSTRONG, DURLUM, LINDNER
6.6	FALSE CEILING- CALCIUM SILICATE	USG BORAL, AEROLITE, ARMSTRONG, HILUX EVEREST, SAINT GOBAIN - GYPROC
6.7	FALSE CEILING-MINERAL FIBRE	USG BORAL, AEROLITE, ARMSTRONG, SAINT GOBAIN, HILUX, GYPROC
6.8	ACOUSTIC: GLASS FIBRE FALSE CEILING AND WOODEN/ FABRIC WALL LINING	ARMSTRONG/ ANUTONE/ HUNTER DOUGLAS / CREDENCE
6.9	ACOUSTIC PANELS, ACOUSTICAL TILE FALSE CEILING	SAINT GOBAIN, ECOPHON, PARMEPHON, HUNTER DOUGLAS, USG BORAL
6.10	ACOUSTIC INSULATION	TWIGA, SAINTGOBAIN, LLOYD, ANUTONE,
6.11	OPEN CELL CEILING	DURLUM, HARSONS GREEN, HUNTER DOUGLAS, LINDNER
6.12	FALSE CEILING GRID SYSTEM	GYPROC, BORAL, DEXUNE, SAINT GOBAIN
6.13	BAFFLE CEILING	HARSONS GREEN, DURLUM, HUNTER DOUGLAS, LINDNER
6.14	TUBULAR FALSE CEILING SYSTEM ALONG WITH SUPPORTING GRID AND METALLIC TILES	DURLUM, HUNTER DOUGLAS, HARSONS GREEN, LINDNER, ARMSTRONG
6.15	ACOUSTIC CEILING WITH FRAME	AEROLITE, ARMSTRONG, ANUTONE.
7.	WOOD WORK	
7.1	COMMERCIAL BOARD, PLY, TEAK PLY, COMMERCIAL PLY, MDF	GREENPLY, GREENLAM, CENTURYPLY, MERINO, ARCHIDPLY
7.2	VENEERED PARTICLE BOARD	MERINO, GREEN (DECOWOOD), DURO, ARCHIDPLY
7.3	LAMINATED PARTICLE BOARD	MERINO, GREENLAM, CENTURY, ARCHIDLAM, STYLAM, KITPLY
7.4	SHUTTERING PLY	ARCHIDPLY, CENTURY, GREENPLY, MERINO,DURO
7.5	HIGH PRESSURE LAMINATES	MERINO, GREENLAM, CENTURY, ARCHIDLAM.
8.	DOORS	
8.1	FACTORY MADE FLUSH DOOR SHUTTER, PANEL DOOR SHUTTER	CENTURY, KIT PLY DURO, ARCHID PLY, GREENLAM.
8.2	AUTOMATIC SLIDING DOORS	SCHUCO, SAPA BUILDING SYSTEMS, EUROPEAN FAÇADE PRODUCT (EPF), REYNERS
8.3	REVOLVING DOORS	DORMA BOON EDAM, DORMA KABA
8.4	FACTORY HOT PRESSED LAMINATED DOOR	MERINO, CENTURY, DURO, ARCHID
8.5	WOOD PLASTIC COMPOSITE (WPC) DOORS	RAJSHRI, CENTURYALSTONE, ARCHIDPLY
8.6	ACOUSTIC DOOR	ANUTONE, OCEANZ, ICA ACOUSTIC
8.9	FRP DOOR FRAME & SHUTTERS	DUROPLAST, JAIN DOORS, RAJSHREE
9.	ACCESSORIES FOR DOORS AND WINDOWS	
9.1	ANODIZED ALUMINUM HARDWARE FITTINGS	EVERITE, KINLONG, ALUALPHA BY LGF SYSMAC, EDCO
9.2	SS FITTINGS	GODREJ, DORMA, KENZ, BARAHI, DORSET, HAFELE, KICH, GEZE, REHASA, SKOAA, ASSAABLOY
9.3	FRICTION STAY HINGES, SS BUTT HINGES WITH BALL BEARING, SLIDING DOOR BOLTS, LEVER HANDLE, MAGIC EYE, PULL HANDLE OTHER S.S. HARDWARE LIKE MORTICE LOCK WITH PAIR OF HANDLES, RECESS HANDLE FITTINGS, FLOOR SPRING, DOOR CLOSER, TOWER BOLT, FLOOR DOOR STOPPER	GEZE, KICH, DORMA, HAFELE, HETTICH, SKOAA
9.4	FAÇADE GLASS OPENABLE FITTINGS	SAVIO/ HOPPE/ LGF-ALU ALPHA / GEZE/ ROTO/ SECURE STYLE
9.5	HARDWARE, PATCH FITTINGS AND FRICTION HINGES	HETTICH, DEFINE, REHASA, DORMA, KENZ, ALUALPHA BY LGF SYSMAC, DORSET, EDCO
9.6	EPDM GASKET	HANU, OSAKA, ALPS

9.7	POLYESTER POWDER COATING SHADES	NEROLAC, BERGER, J & N
9.8	SPIDER FITTINGS	DORMA, HAFELE, DEFINE
9.9	WIDOWS ROLLER BLINDS	VISTA, MAC, HUNTER DOUGLAS, DE-DÉCOR, AREOLUX PHIFFER
9.10	CURTAIN TRACK AND CURTAIN FABRIC	VISTA, TECHNOMED, WINDOWTECH
10.	ALUMINUM WORK	
10.1	ALUMINUM SECTION	HINDALCO, INDALCO, JINDAL
10.2	HYDRAULIC DOOR CLOSER / FLOOR SPRING	GODREJ, DORMA, DORSET, HARDWYN
10.3	ACP ALUMINIUM COMPOSITE PANELS	ALUDECOR, ALCOBOND, ALSTRONG ALSTONE
10.4	ALUMINIUM ALLOY SHEET	KALZIP OR EQUIVALENT
10.5	ZINCALUME PROFILE SHEET	TATA BLUE SCOPE, PENNAR, CRIL (COLOR ROOF INDIA LTD).
10.6	ANODISED ALUMINUM HARDWARE (HEAVY DUTY)	SCHUCO, SAPA BUILDING SYSTEMS, EUROPEAN FAÇADE PRODUCT (EPF), RAYNERS, EDCO
10.7	ALUMINUM STRUCTURAL MEMBERS – WINDOWS, GLAZING AND PARTITIONS	SCHUCO, SAPA BUILDING SYSTEMS, EUROPEAN, FAÇADE PRODUCT (EPF), RAYNERS
10.8	ALUMINIUM EXTRUDED FINS	DURLUM, HUNTER DOUGLAS, LINDNER
10.9	POWDER COATING	ZOTUN, AKZONOBLE, BERGER,
11	UPVC WINDOWS	
11.1	UPVC DOORS AND WINDOWS	DUROPLAST, FENESTA, ALUPLAST, ENCRAFT, SAINT GOBAIN
11.2	HARDWARE FOR UPVC DOORS AND WINDOWS	COTSWOLD, DORSET, DNV GLOBAL, EDCO
12.	GLASS	
12.1	HERMITICALLY SEALED PERFORMANCE GLASS TOUGHENED GLASS	MODI GUARD, SAINT GOBAIN, TATA-ASHAI
12.2	FLOAT GLASS, REFLECTIVE GLASS, MIRROR GLASS	MODI GUARD, SAINT GOBAIN, TATA-ASHAI, HNG
12.3	FLOAT ANNEALED GLASS	SAINT GOBAIN, GUARDIAN GLASS (SUNGUARD), HNG, MODI GUARD
12.4	REFLECTIVE SOFT COATED / LOW E GLASS	SAINT GOBAIN, EMIRATE GLASS, GUARDIAN GLASS (SUNGUARD)
12.5	GLASS DOOR HARDWARE	DORMA, HAFELE, OZONE, DORSET
13.	FIRE DOORS	
13.1	FIRE PROOF STEEL DOORS AND GENERAL-PURPOSE STEEL DOORS	METAFLEX, SHAKTI HORMANN, PROMAT, ROMAT , TUFWOOD, TATA PRAVESH, SAINT GOBAIN
13.2	FIRE CHECK DOOR (120 MIN.RATINGS)	SHAKTI HORMANN, PROMAT, SAINT GOBAIN
13.3	HARDWARE FOR FIRE CHECK DOOR	KICH, ASSAABLOY, BECKER FS, DORMA, NAVAIR, SAINT GOBAIN
13.4	SILICONE SEALANT / SEALANT	G.E, DOW CORNING, WACKER, SIKA, BECKER, WURTH, STP, PIDILITE
13.5	FIRE RATED VISION PANELS	SAINT GOBAIN, PILKINGTON, SCHOTT, FERILITE, SAINT GOBAIN
13.6	CALCIUM SILICATE BOARD	STARPAN, HILUX, AEROLITE, PROMAT
13.7	HINGES FOR FIRE RATED DOORS	DORMA, I.R (INGERSOL RAND), ASSA ABLOY, YALE, HAFELE, GEZE, HORMANN, SAINT GOBAIN
13.8	INTUMESCENT STRIPS	PROMAT, PEMKO, INTUMEX, ASTROFLAME
13.9	FIRE RATED GLASS	SAINTGOBAIN, MODI SCHOTT, PILKINTON, SAINT GOBAIN, SEZAL
14.	FAÇADE	
14.1	FAÇADE SYSTEMS	SCHUCO, SAPA BUILDING SYSTEMS, EUROPEAN FAÇADE PRODUCT (EPF), REYNERS

14.2	SS CLAMPS (STONE CLADDING)	HILTI, DORMA, FISCHER
14.3	GFRC/GRC	UNISTONE, KFPL
14.4	FAÇADE ACCESS	SECALT, COX GOMYL, MANNTECH
14.5	SS FRICTION HINGES, MULTIPOINT LOCKING SETS, HANDLE, ROLLERS FOR SLIDING, WOOL PILE WITH SILENT FILM, WINDOWS HINGES, DOORS HINGES	HITECH, HAFELE, GODREJ
14.6	STONE SEALER / ADHESIVE / ENHANCER	LATICRETE / MYK LATICRETE, FOSROC, CHOKSEY CHEMICALS, ASIAN PAINTS, FEVICOL
15.	PLUMBING, SANITARY & SEWAGE	
15.1	G.I. FITTINGS	TATA, UNIK, AVR, ZOLOTO
15.2	UPVC/ CPVC/ PVC PIPE, FITTINGS AND FIXTURE	FINOLEX, ASTRAL, SUPREME
15.3	HDPE PIPES	RELIANCE, ORIPLAST, DUTRON, SUPREME
15.4	CI FITTINGS	RBA FERRO, WALTZER, KAJECO, NECO, SKF
15.5	CI DOUBLE FLANGED SLUICE VALVE	KIRLOSKAR, SONDHI, KEJRIWAL
15.6	FLOAT VALVE	LK, LEADER, ZOLOTO, KRANTI, HANT
15.7	CENTRIFUGALLY CAST (SPUN/HUBLESS) IRON PIPES & FITTINGS OR HUBLESS	NECO, ELECTROSTEEL, SKF
15.8	CENTRIFUGALLY CAST (SPUN/HUBLESS) IRON (CLASS LA) PIPES	NECO, ELECTROSTEEL, BIC RPMF
15.9	C.I. MANHOLE COVERS, FRAMES AND GI GRATINGS	NECO, SKF, BIC (BENGAL IRON CORP.), HEPCO,
15.10	SFRC MANHOLE COVERS AND GRATINGS	KK, JAIN, PARGATI
15.11	GUN METAL VALVES, GLOBES	LEADER, ZOLOTO, LK, KRANTI, SANT
15.12	CP BRASS FITTINGS, SANITARY FITTINGS AND ACCESSORIES	JAQUAR, KOHLER, GROHE, ROCA
15.13	WATER METER	LEADER, ZOLOTO, LK, KRANTI, SANT
15.14	BRASS STOP AND BIB COCK	LEADER, ZOLOTO, LK, KRANTI, SANT
15.15	NON-RETURN VALVE (CHECK VALVE) H" TO 1 1/4"	LEADER, ZOLOTO, LK, KRANTI, SANT
15.16	INSULATION FOR HOT WATER PIPES	KAIFLEX, ARMAFLEX, CAREFLEX
15.17	EUROPEAN WC, INDIAN WC, WASHBASIN, URINALS	JAQUAR, KOHLER, ROCA, HINDWARE, PARRYWARE
15.18	GULLY TRAPS	PERFECT, PARRY, JAYASWAL-NECO, MOLI CERAMICS, BIKANER CLAY PRODUCTS
15.19	BALL VALVES /IN BUILT FILTER	RAPID CONTROL, CIM, SKS, L&T VALVES, ZOLOTO, ARCO
15.20	BUTTERFLY VALVE	KIRLOSKAR, CASTLE, KSB, LEADER, ZOLOTO
15.21	FLOOR GRATING	NEER, GMGR
15.22	PVC CISTERN	JAQUAR, HINDWARE, KOHLER
15.23	PRESSURE REDUCING VALVE	ZOLOTO, LEADER, CIM
15.24	FIRE CLAY SINK	HINDWARE, PARRYWARE, CERA.
15.25	STAINLESS STEEL SINK	JAQUAR, KOHLER, GROHE, AMERICAN STANDARD, CERA, NEELKANTH, NIRALI, JAYNA
15.26	DI PIPES AND FITTINGS	ELECTRO STEEL, JINDAL, TATA DUCTURA,
15.27	RCC PIPES	INDIAN HUME PIPE, JAIN & CO, MADURAI SPUN PIPE,
15.28	WATER STOPS	DR.FIXIT, ARDEX, ENDURA, HYDROSWELL, ALSTRONG,
15.29	STRUCTURAL SEALANT	SMART CARE, FOSROC, GE
15.30	PVC WATER TANK	SINTEX, SPL, SFMC
15.31	PTMT FITTINGS	PRAYAG POLYMER PVT. LTD, PRINCE
16.	WATER PROOFING	
16.1	WATERPROOFING COMPOUND AS	FOSROC, CICO, SIKA, PIDILITE, WEBER, HUNTSMAN, BASF,

	ADMIXTURES IN CONCRETE, PLASTICIZERS, OTHER CONSTRUCTION CHEMICALS	STP MYK, SCHOMBURG, DR FIXIT, ASIAN SMART CARE
16.2	WATERPROOFING SELF ADHESIVE(HDPE) MEMBRANE	MYK, DBS, BASF, FOSROC, PIDILITE, SUPREME, ASIAN SMART CARE
16.3	PU ELASTOMERIC MEMBRANE	FIRE STONE, DBS, PIDILITE, CICO, BERGER , ASIAN SMART CARE, STP
16.4	EPDM WATERPROOFING MEMBRANE	CARLISLE, PIDILITE, FIRESTONE, DBS, ASIAN SMART CARE
16.5	FLEECE TPO	CARLISLE, FIRESTONE, SOPREMA, ASIAN SMARTCARE
16.6	SWELLABLE BAR	PIDILITE, FOSROC, MYK SCHOMBURG, ASIAN SMART CARE
16.7	CRYSTALLINE WATER PROOFING ADMIXTURE	PENETRON, KRYTON, PIDILITE, FOSROC ,ASIAN SMART CARE
16.8	APP POLYMERIC POLYETHYLENE FELT	BITUMAT, STP, BENGAL BITUMEN
16.9	SANDWICH PUF PANELLED ROOFING SHEET.	LLOYD, JINDAL, GESILICON
16.10	EPDM GASKET	ANAND, AMEE, HANU
16.11	MASKING TAPES	3M, WONDER, SUN
17.	THERMAL INSULATION	
17.1	PIR INSULATION BOARD	CARLISLE, FIRESTONE, LLOYDS INSULATION
17.2	GLASS WOOL INSULATION	UP TWIGA, ROCKWOOL INDIA, LLOYD INDIA, OWEN CORNING
17.3	ROCK WOOL INSULATION	LLOYD, ROXUL, ROCKWOOL INDIA, OWEN CORNING
17.4	UNDERDECK INSULATION	UP TWIGA, LLOYD, ROXUL, INSUBOARD
17.5	EXTRUDED POLYSTYRENE BOARD INSULATION (XPS BOARD)	DOW BUILDING SOLUTIONS, OWENS CORNING, ISOFOAM, STYLAM, SUPREME PETROCHEM INDUSTRIES LTD, TEXSA
18.	ANTITERMITE TREATMENT	PEST CONTROL INDIA LTD, GODREJ, CAPITAL
19.	UPVC HARDWARE	DNBHOPPE, COAR
18.	DECKING	
18.1	SKYLIGHT/POLYCARBONATE SHEET	DANPAL, GE, ALCOX.
18.2	POWDER COATED GI SHEET	TATA, ESSAR, JSW STEEL LTD, JSPL, LLOYDS, BHUSAN
19.	ROAD WORK	
19.1	BITUMEN	INDIAN OIL/ HINDUSTAN PETROLEUM/ BHARAT PETROLEUM
19.2	INTERLOCKING PAVER BLOCK	SHARDA TILES, HELIX
20.	OTHER ITEMS	
20.1	STAINLESS STEEL	SALEM STEEL (SAIL), JINDAL ALLOYS
20.2	STAINLESS STEEL RAILING	KICH, OZONE, REHASA, JINDAL (COMPLETE RAILING SYSTEM)
20.3	STAINLESS STEEL SCREW	NETTLEFOLD, JKW ALLOY
20.4	STAINLESS STEEL HINGES	DORMA, OZONE, GEZE
20.3	POLY-SULPHIDE SEALANT	FOSROC, SIKA, PIDILITE, AKZONOBEL, LATICRETE, WACKER, DOW CORNING
20.5	TILE AND STONE ADHESIVE, GROUTING COMPOUND, MORTAR REPAIR COMPOUND, STRUCTURE GROUTING	PIDILITE, BAL ENDURA, FOSROC, FERROUSCRETE, TEEMAX, TEEMAX TETRA POLYMORTAR 44, LATICRETE / MYK LATICRETE
20.6	WOOD ADHESIVE	FEVICOL, 3M, SIKA, THERMOSHIELD
20.7	DASH AND ANCHORING FASTENERS	HILTI, FISCHER, BOSCH, WUERTH
20.8	FLOOR HARDENER	IRONITE, FERROK, HARDONATE
20.9	MODULAR EXPANSION JOINT	HERCULUS, VEXCOLT, DEVIN, CS, Z-TECH, SAINFIELD
20.10	S S MESS	GKD, WMW, JINDAL
20.11	WIRE MESH	STERLING ENTERPRISES, TRIMURTY WELDED MESH
20.12	TOILET MODULAR CUBICALS	MERINO BY BESCO, MATRIXCUBICLE SYSTEM, JAGUAR, GREENLAM STURDO
20.13	PRE-CAST GRC JALI	UNISTONE, DALAL TILES, BIRLA, DELHI GRC

20.14	TERRA COTTA TILES	CITADEL, TEMPIO, AGROB BUCHTAL, UNISTONE
20.15	WELDING ELECTRODES	ADVANI, L & T, ESAB
20.16	PVC STRIPS	FIXOPAN, ALOK PACKAGING
20.17	PVC GUARD RAIL AND PVC CORNER GUARD	WINDOWTECH, TSI, TECHNOMED, JDV
20.18	BUILDING SIGNAGE	SIGNSUTRA, PR GRAPHICS, MOTIVATTE SOLUTION
20.18	SELF-LEVELING COMPOUND	BASF, FOSROC, SIKA, MYKLATICRETE
20.19	PRECAST DRAIN COVER/KERB CHANNEL	S&S, HPL, KK, NITCO, KERAKROME, TERRAFIRMA
20.20	CHEQUERED PRECAST CC TILES	NTC, SWASTIC, GTC
20.21	G.I. STEEL DOOR FRAME	SYNERGY THRISLINGTON, SHAKTI HORMANN, BHAWANI FIRE
20.22	POLYETHYLENE BACK UP ROD	SUPREME IND, SYSTRANS POLYMERS
20.23	SMOKE SEAL INTUMESCENT	HILTI, SIKA, 3M
20.24	BACKER ROD	SUPREME, SYSTRANS POLYMERS, BACKERROD
20.25	PVB LAMINATION	DUPONT, SAFLEX, EVERLAM
20.26	SGP LAMINATION	DUPONT, SAFLEX, EVERLAM
20.27	PVDF COATING	AKZONOBEL, VALSPAR, EVERFLON POLYMER
20.28	SPACER TAPE (OPEN PU CELL)	NORTON, BOW, 3M
20.29	ANCHOR CHANNELS (CAST IN CHANNEL)	HAFAL, HILTI, SCHUCO, SAPA BUILDING SYSTEMS, EUROPEAN FAÇADE PRODUCT (EPF)
20.30	Automatic/Manual Hermetically Sealed Sliding Door	SHD Italy/LM Medical Italy/MDD Medical/Meta flex
20.31	ANTIBACTERIAL PAINT/PUTTY ON WALL & CEILING	Jotun/Sikka/
20.32	Vinyl Flooring	Gerfloor/Tarkett/ Forbo
20.33	Stainless Steel 2 Bay Scrub Sink Solenoid valves with manual mode/foot operated switch 2 bay scrub sink	SHD Italy/LM Medical Italy/MDD Medical
20.34	Automatic Hand Dryer	Euronics Or Equivalent
20.35	Writing Board	SHD Italy/LM Medical Italy/MDD Medical
20.36	Self-Levelling Compound flooring	MDD/MYK/Or Equivalent
20.37	Cement Bonded Particle Board	NCL(Bison Board)/Everest(Eternite)/Shera
20.38	Corner Guards	LM Medical/ Nexor Medical/ SH/ Rein Medical/ MDD/PES
	SH ; ELECTRICAL WORKS	
1	Steel conduit & accessories (ISI marked)	BEC/AKG/steel kraft /rmcon
2	Wires and Cables	Havells/Polycab/RRkabel/ Finolex/Gupta
3	Modular switches & sockets, modular plate , modular blank plate, including modularboxes & plates (anti-bacterial type)	Legrand / Schneider /MK/ ABB/L&T/Panasonic
4	Electrical Panel	L&T/Schneider/ABB
5	Lights	Philips/Wipro/Havells
6	Fans	Bajaj/Crompton/ Havells
7	Switches, Socket & GI box	Legrand/Roma/Schneider
8	DB, MCB, and Industrial type socket outlet	Legrand/ L&T/Schneider
9	Earthing Electrode and strip	ISI approve make
10	End Termination Kit	ISI approve make
11	IP phone	Unify / Progility / Siemens / Cisco / Avaya
12	IP based Nurse Call Station	Meditec / MDD / PMP

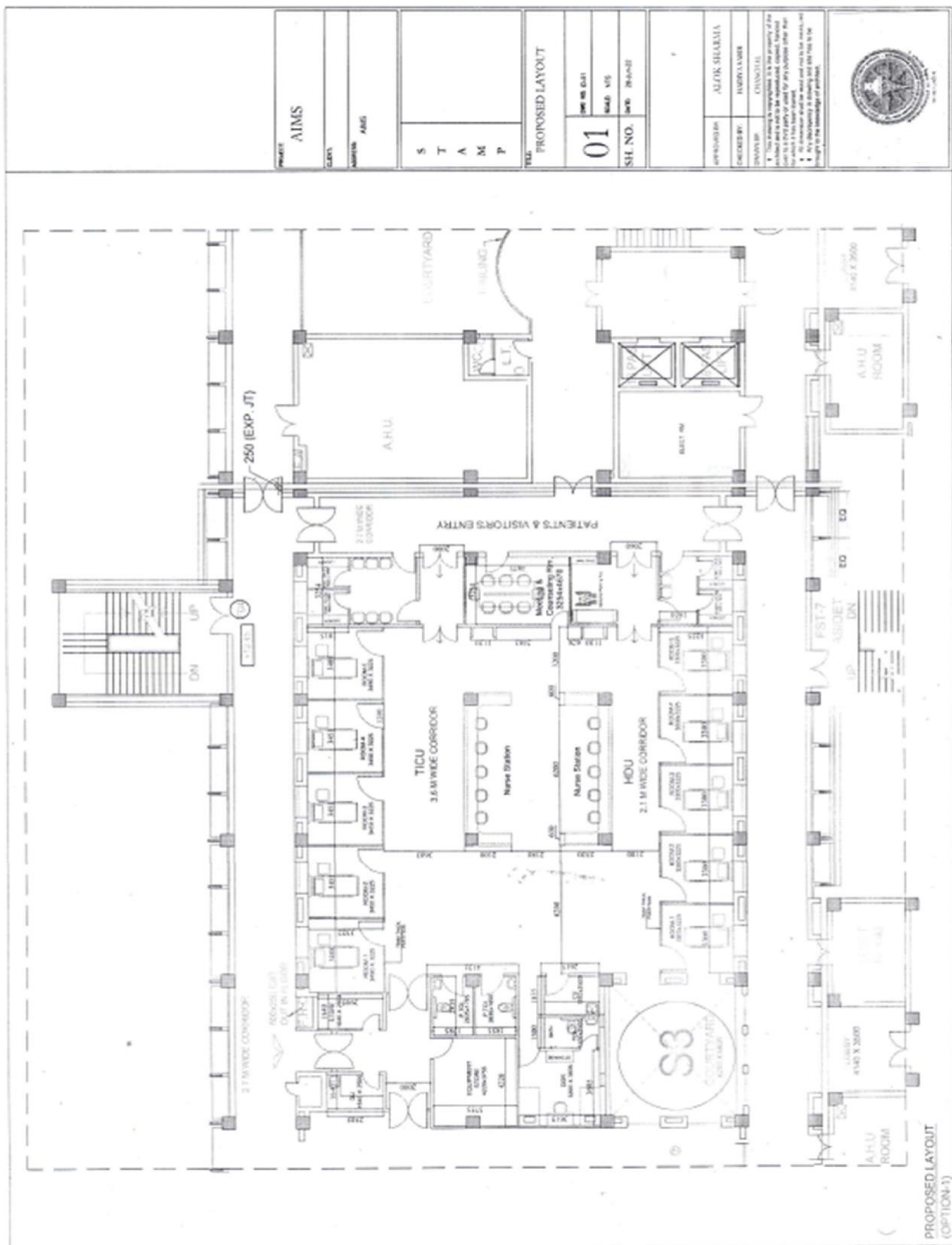
13	Bed Head Unit Module for NCS	Meditec / MDD / PMP
14	Handset Remote for NCS	Meditec / MDD / PMP
15	Door Unit Module for NCS	Meditec / MDD / PMP
16	Fire alarm Zonal Panel, Main Control Panel , sounder MCB, Talkback unit/ Response Indicator/Detector	Agni Instruments Engineers India Pvt ltd / Honeywell/ Siemens
17	Amplifier/MCP/Hooter	Honeywell / Agni Instruments Engineers / BOSCH
18	CO2/ABC fire extinguisher	Minimax/Ceasefire/Kanex(All with ISI marked)
19	Detectors	System sensor/Notifier
20	MS Pipe / GI Pipe	Tata / Jindal / SAIL (all with ISI marked)
21	CI Butterfly valve.	Kirloskar/Zoloto or equivalent
22	CI Non-return valve	Kirloskar/Zoloto or equivalent
23	Landing valves/ Hydrant valves	Minimex /safeguard/ Padmini or equivalent
24	Branch pipe	Minimax / safeguard/Padmini or equivalent
25	RRL Hose pipe	Safeguard / Minimex / Padmini or equivalent
26	Hose Cabinet	Minimax / safeguard / Padmini or equivalent
27	FHC	Minimax / safeguard / Padmini or equivalent
SH : AIR-CONDITIONING , VENTILATION WORKS		
S.NO.	DESCRIPTION OF ITEM	ACCEPTABLE MAKES
1	COPPER PIPE	MANDEV/RAJCO/TOTALINE
2	HI-WALL/CASSETTE UNITS	CAREER/HITACHI(SIGMA)/LG/BLUESTAR/VOLTAS/ DAIKIN/LG/ SAMSUNG
3	HYDRONIC HI-WALL/CASSETTE UNIT	CUBIC / MIDEA/CARRYAIRE
4	VAV BOX	TRANE/YORK/CARRYAIRE/SYSTEM AIR/DAIKIN/CYNOR
5	AIR HANDLING UNIT/ FRESH AIR TREATMENT UNIT & COOLING / HEATING COIL	SYSTEMAIR/FLAKTWOOD/CARRIER/VTS/STULZ
6	FAN COIL UNIT	SYSTEMAIR/FLAKTWOOD/CARRIER/VTS/STULZ
7	PLUG FAN FOR AHU	NICOTRA/KRUGER/GREEHECK/ SYSTEM AIR
8	MOTOR FOR AHU FAN/ VENTILATION FAN	KIRLOSKAR/SIEMENS/ CROMPTON GREAVES/ABB
9	CENTRIFUGAL FANS/ AXIAL FLOW FANS/ IN LINE FAN / PROPELLER	NICOTRA/KRUGER/GREEHECK/MARATHON/SYSTEM AIR
10	HEAT RECOVERY WHEEL	BRYAIR/ENVENTUS//OSTBERG/ZENCO/HUMIDIN
11	MOTORISED BUTTERFLY/ BALANCING VALVE	AUDCO / ADVANCE / L&T / BELIMO / SIEMENS / HONEWELL / DANFOS
12	PRESSURE SWITCH	DANFOSS / HONEYWELL / INDFOS /POTTER
13	TEST POINT /AUTOMATIC PURGE VALVES / AUTOMATIC AIRVENT / AIR RELEASE VALVE	RAPIDCOOL / ANERGY / FLAMCO ETAP/EMERALD
14	SUCTION GUIDES WITH STRAINER	EMERALD / ANERGY / or Equivalent
15	GALVANIZED IRON(GI) SHEET	SAIL / TATA / JINDAL
16	ALUMINUM SHEET	HINDALCO / BALCO / NALCO

17	FACTORY FABRICATED DUCTS, FLANGES & ACCESSORIES	ROLASTAR / ZECO / / TECHNOFAB/ GP SPIRA / ATCO
18	PUF DUCT	LLOYD/WAVES/ASAWA/ZECO/BEARDSHELL
19	FLEXIBLE DUCT	MAPRO / RESISTOFLEX / KANWAL/ SPHERE / ATCO / U.P. TWIGA/ GP SPIRA
20	FIRE RETARDANT CANVASSS CONNECTION	ARMADUCT / CLIMATECH / or Equivalent
21	WIRE ROPE SUSPENSION ARRANGEMENT	GRIPPLE / DUCTMATE / or Equivalent
22	FINE FILTERS / HEPA FILTERS/ ACTIVATED CARBON FILTERS	THERMADYNE / SPECTRUM /FMI
23	PRE-FILTERS	THERMADYNE / SPECTRUM / ANFILCO / SAG I
25	METALLIC AIR FILTERS	ZECO / EDGETECH / SYSTEM AIR
26	GRILLS / DIFFUSER / LOUVERS / VOLUMECONTROL DAMPER/FRESH AIR	DYNACRAFT/SYSTEM AIR/CARRYAIRE / COSMOS AIRFLOW/PINEAIR/TRISTAR
27	SOUND ATTENUATORS	RUSKIN TITUS / INTERTEC / DYNACRAFT / SOUND CONTROL/ COSMOS/CYNOR
28	MOTORIZED VOLUME CONTROL DAMPERS	DYNACRAFT / CARRYAIRE/RUSKINTITUS/ SYSTEM AIR /
29	ACTUATORS FORMOTORIZED VOLUME CONTROL DAMPERS	BELIMO / SIEMENS / HONEYWELL
30	FASTENERS /SUSPENSION ACCESSORIES	FISCHER/HILTI/WURTH/CANON/BOSCH.
31	SPIGOTS	DYNACRAFT / SERVEX / TRISTAR
32	FIRE SEALANT	3M / HILTI / OBO-BERRERMAN
33	FIRE RETARDANT COATING ON DUCT WORK & SUPPORTS	FLAMEBAR / PROMAT/PARAMOUNT- POLYTREAT/ CISCHEM
34	EPDM	AEROFLEX / HT ARMAFLEX/KFLEX HT SOLAR
35	NITRILE RUBBER/ AUCOSTIC INSULATION / UNDER DECK INSULATION/PROTECTIVE COATING OVER NITRILE RUBBER	KFLEX/ VIDOFLEX/ EUROBATEX/ ARMACELL
36	ADHESIVE FOR CLOSED /OPEN CELL INSULATION MATERIALS	PIDILITE / KFLEX K414/SR998
37	NITRILE RUBBER WITHSILICON JACKET	KFLEX/ VIDOFLEX/ EUROBATEX/ ARMACELL
38	ALUMINIUM TAPE/FOIL	KFLEX/ VIDOFLEX/ EUROBATEX/ ARMACELL
39	GLASS INSULATION/ ACOUSTIC INSULATION FOR DUCT	UP TWIGA /OWENS CONNING
40	PUF INSULATION	LLOYD/OWEN CONNINGS /BEARDSSELL/UNIFIX/MALANPUR
41	THEROCOAL PIPE SECTION / TERMOCOAL SLABFOR UNDER DECK/ EXPOSED DUCT INSULATION	BEARDESEL/ASTHA POLYMER
42	XLINKED POLYETHYLENE- XLPE	STYRENE /SUPREME/PARAMOUNT
43	LRB ROCK WOOL	LLOYD/SUNROCK/MALANPUR
44	UPVC/CPVC PIPE	POLYPACK/SUPREME/ASTRALL/TRUFLO/ASHIRVAD/ PRINCE
45	PPR PIPE	FUSION/AQUAPLAST INDIA/ HEROPOLYMER/ VECTOR/ HINDUSTAN PLASTIC / SANITUBE
46	PRESSURE GAUGE/THERMOMETER	H. GURU/FIEBIG/EMERALD/ ANERGY/ GAUGESBURDON/WAREE

47	FAN FILTER UNIT	ANNE PARKER/ AIR-TECH/CAMFIL/PROTECH
SH:MGPS WORKS		
S.NO.	DESCRIPTION OF ITEM	ACCEPTABLE MAKES
1	GAS TERMINAL UNIT/OUTLET POINTS. OXYGEN/ N2O/MA4 AIR/ VACUUM/AGSS WITH PROBE	GREGRESSEN – GERMANY/AMICO-CANADA /ATLAS COPCO MEDICAL LTD, UK/ BEHRINGER- ITALY/P3 PHOENIX-UK/ DMGS,UK
2	OXYGEN FLOW METER/ LOW FLOW OXYGEN FLOW METER.	TECHNOLOGIE MEDICALE-FRANCE / AMICO- CANADA /ATLAS COPCO MEDICAL LTD, UK/ GREGRESSEN – GERMANY
3	POLYSULPHONE HUMIDIFIER BOTTLE	TECHNOLOGIE MEDICALE-FRANCE/ AMICO- CANADA /ATLAS COPCO MEDICAL LTD/ GREGRESSEN – GERMANY/ BEHRINGER-ITALY/ P3 PHOENIX-UK
4	VACUUM REGULATOR/LOW FLOW VACUUM REGULATOR	TECHNOLOGIE MEDICALE-FRANCE/ AMICO- CANADA /ATLAS COPCO MEDICAL LTD/ GREGRESSEN – GERMANY/BEHRINGER-ITALY/P3 PHOENIX-UK
5	POLYSULPHONE COLLECTION JAR	TECHNOLOGIE MEDICALE-FRANCE/ AMICO- CANADA /PENLON LTD SOLUTIONS/ GREGRESSEN – GERMANY/BEHRINGER-ITALY/P3 PHOENIX-UK
6	MEDICAL GAS HOSE /ANTISTATIC TUBE	TECHNOLOGIE MEDICALE-FRANCE/ AMICO- CANADA /PENLON LTD SOLUTIONS/ GREGRESSEN – GERMANY/ BEHRINGER-ITALY/P3 PHOENIX-UK
7	BSI KITE MARK CERTIFIED MEDICAL GRADE COPPER TUBE/ PIPES	MEHTA TUBE/ RAJCO/ MANDEV/ LAWTON/ CUBAX
8	AREA ALARM	GREGRESSEN – GERMANY /AMICO-CANADA /P3 PHOENIX MEDICAL/ OXYLITRE/ TEDISEL/ BEHRINGER- ITALY/ATLAS COPCO, UK
9	AREA VALVE SERVICE UNIT	GREGRESSEN – GERMANY /AMICO-CANADA/ P3 PHOENIX MEDICAL/ OXYLITRE/ TEDISEL/ CLASS1INC- CANADA/ BEHRINGER-ITALY/ATLAS COPCO, UK
10	LOCKABLE LINE ISOLATION VALVES	GREGRESSEN – GERMANY /AMICO-CANADA/P3 PHOENIX MEDICAL/ OXYLITRE/ TEDISEL/ CLASS1INC- CANADA/ BEHRINGER-ITALY/ATLAS COPCO, UK
11	PENDANTS, BED HEAD PANEL	LM MEDICAL ITALY/TRUIMP HILLROM- USA/AMICO CORPORATION-CANADA BEHRINGER- ITALY/ P3 PHOENIX-UK/TEDISEL SPAIN
12	AGSS INDICATOR, RESERVOIR, HOSE ASSEMBLY.	GREGRESSEN – GERMANY/ AMICO-CANADA/P3 PHOENIXMEDICAL/ OXYLITRE/ TEDISEL/ CLASS1INC- CANADA/ PMGS, UK/ PENLON/ BEHRINGER- ITALY/ATLAS COPCO, UK
13	TICU CONTROL PANEL	LM Medical/ Nexor Medical/ SH/ Rein Medical/ MDD/PES
14	X-Ray VIEW PANEL	LM Medical/ Nexor Medical/ SH/ Rein Medical/ MDD/PES

Executive Engineer (AC & R)
AIIMS, Bhubaneswar

TENDER DRAWING



SCOPE OF WORK & TECHNICAL SPECIFICATION

The Scope of Work of this Tender includes all modifications to the built-up space at the hospital site like civil works, electrical works, plumbing works, interior decoration, air conditioning ducting, MGPS works and other related works required for smooth and efficient functioning of the Transplant ICU. These works shall comply with all relevant safety and standards guidelines. The contractor shall be fully responsible for installation and commissioning of all equipment mentioned in the tender. Supplying, Installation, Testing and Commissioning (as applicable) of wall & ceiling paneling, PVC flooring, doors, Lighting, Touch Screen Control Panel, Laminar Flow, Pendants, Painting, Electrical work including earthing, Nurse Call System, Fire Fighting, HVAC & MGPS works and all items indicated in the NIT etc. as per technical specification with all cable conduit, trenches and railings wherever required. Provision of storage shelves, scrub basins and other service areas as mentioned in the tender. Control cabling from AHU to TICU control panel and associated sensors.

Any other necessary work required for satisfactory working/performance of the Transplant ICU and not mentioned/specified shall also be carried out by the Contractor. The brief Scope of Work is as follows :

CIVIL WORKS

1. **Demolishing brick work manually/ by mechanical** means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.
2. Removing mortar from bricks and cleaning bricks including stacking within a lead of 50 m (stacks of cleaned bricks shall be measured):
3. **Demolishing R.C.C. work** by mechanical means and stockpiling at designated locations and disposal of dismantled materials up to a lead of 1 kilometer, stacking serviceable and unserviceable material separately including cutting reinforcement bars.
4. **Dismantling tile work in floors and roofs** laid in cement mortar including stacking material within 50 metres lead. For thickness of tiles 10 mm to 25 mm.
5. Dismantling vinyl flooring in floors and roofs laid in cement mortar including stacking material within 50 metres lead.
6. **Dismantling aluminium/ Gypsum partitions, doors, windows**, fixed glazing and false ceiling including disposal of unserviceable material and stacking of serviceable material within 50 metres lead as directed by Engineer-in charge.
7. **Dismantling doors, windows and clerestory windows** (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead : Of area 3 sq. metres and below.
8. **Dismantling doors, windows and clerestory windows** (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead :Of area beyond 3 sq. metres.
9. **Disposal of building rubbish / malba / similar unserviceable**, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.
10. **Disposal of moorum/building rubbish/ malba/** similar unserviceable, dismantled or waste material by mechanical transport including loading, transporting, unloading to approved municipal dumping ground for lead up to 10km for all lifts, complete as per directions of Engineer-in-charge. Note - item to be applicable in urban areas having directions for restricted hours for movement/ plying of load carrying motor vehicle of 3.5 cum or more.
11. **Providing and laying cement concrete** in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or

lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor etc., up to floor five level, excluding the cost of centring, shuttering and finishing: 1:1½:3 (1 cement : 1½ coarse sand (zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources).

12. **Reinforced cement concrete work** in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases above plinth level up to floor five level, excluding the cost of centering, shuttering, finishing and reinforcement with 1:1.5:3 (1 cement : 1.5 coarse sand(zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources)

13. **Steel reinforcement for R.C.C. work** ready to use "cut and bend" rebars of approved make from factory/ workshop to construction site including placing in position and binding all complete above plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.

14. **Half brick masonry with non-modular fly ash bricks** of class designation 10, conforming IS :12894, in super structure above plinth and up to floor V level. Cement mortar 1 : 3 (1 cement : 3 coarse sand)

15. **Brick work with non-modular fly ash bricks** conforming to IS:12894, class designation 10 average compressive strength in super structure above plinth level up to floor V level in : Cement mortar 1:4 (1 cement : 4 coarse sand)

16. 15 mm cement plaster on the rough side of single or half brick wall of mix : 1:4 (1 cement: 4 fine sand)

17. 12 mm cement plaster of mix : 1:4 (1 cement: 4 fine sand)

18. **Water proofing treatment of Vertical joints** (of external side and internal side) between door frame, window & ventilator frames (on all four sides) of outer wall over the Zycosil/equivalent & Zycoprime/equivalent solution already applied (before the installation of door / window / ventilator frames in position) and fine finish with Grout RW/equivalent.

19. **Providing and laying water proofing treatment on roofs** of slabs by applying cement slurry mixed with water proofing cement compound consisting of applying:

(a) after surface preparation, first layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm.

(b) laying second layer of Fibre glass cloth when the first layer is still green. Overlaps of joints of Fibre cloth should not be less than 10 cm.

(c) third layer of 1.5 mm thickness consisting of slurry of cement @ 1.289 kg/sqm mixed with water proofing cement compound @ 0.670 kg/sqm and coarse sand @ 1.289 kg/sqm. This will be allowed to air cure for 4 hours followed by water curing for 48 hours. The entire treatment will be taken upto 30 cm on parapet wall and tucked into groove in parapet all around.

(d) fourth and final layer of brick tiling with cement mortar (which will be paid for separately. For the purpose of measurement, the entire treated surface will be measured.

20. **Providing and fixing 1st quality ceramic glazed wall tiles** conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.

21. **Providing and laying Vitrified tiles in floor** in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, levelling system

and rubber mallet for placing the tiles gently and easily. Glazed Vitrified tiles **Matt/Antiskid finish of Size of Tile 600 x 600 mm.**

22. **Providing and laying vitrified floor tiles** in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete. **Size of Tile 600x600 mm.**

23. **Painting with ANTIBACTERIAL PAINT & PUTTY ON WALL & CEILING (Other External Area) Anti-Microbial Protection:** These product hygiene coatings start the biocidal action as soon as the microorganism land on the surface, and prevents the growth of mould, bacteria and yeasts and tender technical specification & directed by Engineer-in-charge. Two or more coats on New work.

24. **Distempering with oil bound washable distemper** of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer

25. **Painting with synthetic enamel paint** of approved brand and manufacture of required colour to give an even shade : One or more coats on old work

26. **Ceiling of other service area :** Providing and fixing horizontal level suspended Aluminium Metal false ceiling of specified materials of size 595x595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanized steel sections (galvanized @ 120 grams/ sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38 mm made from 0.30 mm thick (minimum) sheet, spaced at 1200 mm center to center and cross "T" of size 24x25 mm made of 0.30 mm thick (minimum) sheet, 1200 mm long spaced between main "T" at 600 mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 24x25 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 24x24x0.3 mm and laying false ceiling tiles of approved texture in the grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm GI adjustable rods with Galvanised butterfly level clips of size 85 x 30 x 0.8 mm spaced at 1200 mm center to center along main T, bottom exposed width of 24 mm of all T-sections shall be pre-painted with polyester paint, all complete for all heights as per specifications, drawings and as directed by Engineer-in-charge.

1. Aluminium Metal Tile(3105 Grade) Lay-in Tegular edge global white color Tiles size(Square Edge) 595mmx595mmx0.7mm

2. Weight is minimum 2.08 Kg/m² 3. Having Humidity Resistance 4. Light Reflectance minimum 75 % 5. Fire Performance CLASS 0/CLASS 1,(BS 476) Part 6 & 7 tiles of 120 gsm galvanized steel as per IS 277 (2003) suitable for architectural finishes in 0.5mm thickness as per in IS:513 (1994) in Global white color with concealed suspension system having a beveled edge of 3x3mm and height of 33mm on one side and 18mm on the other side. Tiles shall be flattened by precision leveler to minimize sag to less than 1/400mm. The tiles shall have double round pip of ϕ 2mm and ϕ 6mm for secure engagement and -levelling respectively, along with swing down feature and special tabs to allow removal of tile to enable plenum access. The tile shall be electrostatically polyester powder coated using RoHS compliant powder having coating thickness ranging from 60-80 microns. The powder coating shall pass Salt Spray Test for 750 Hours as per ASTM B117, QUV –A Test for 1000hours as per ASTM G-154 – (Cycle – 1) and Humidity test for 1000hours as per DIN 50017. The powder coating shall have an adhesion of GT0 as per EN ISO 2409. The shade variation across batches shall be $\Delta E \leq 1$ using Excite/BYK Gardner instrument and gloss level of $25 \pm 5\%$ at 60° as per ASTM D523. The tile shall have a Light Reflectance of $\geq 63\%$ in accordance to ASTM 1477-98 and Fire Performance of class 0/1 as per BS 476 Part 6 & 7 in module size of 600x600mm. including factory painted after bending(Note-Payment will be made Only Nos after installation complete)".

27. **Inside Patient Cubicle** - Inside Patient Cubicle & Cubical front Corridor area - Providing and fixing GI Clip in Metal Ceiling System of 600x600 mm module which includes providing and fixing 'C' wall angle of size 20x30x20 mm made of 0.5 mm thick pre painted steel along the perimeter of the room with help of nylon sleeves and wooden screws at 300 mm center to center, suspending the main C carrier of size 10x38x10 mm made of G.I steel 0.7 mm thick from the soffit with help of soffit cleat 37x27x25x1.6 mm, rawl plugs of size 38x12 mm and C carrier suspension clip and main carrier bracket at 1000 mm c/c. Inverted triangle shaped Spring Tee having height of 24 mm and width of 34 mm made of GI steel 0.45 mm thick is then fixed to the main C carrier and in direction perpendicular to it at 600 mm centers with help of suspension brackets. Wherever the main C carrier and spring T have to join, C carrier and spring T connectors have to be used. All sections to be galvanized @ 120 gms/sqm (both side inclusive), fixing with clip in tiles into spring T with : GI Metal Ceiling Clip in plain Beveled edge global white color tiles of size 600x600 and 0.5 mm thick with 25 mm height, made of G I sheet having galvanizing of 100 gms/ sqm (both sides inclusive) and electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending.

28. **Providing and laying self-levelling compound** : Providing and laying self levelling compound 2-3 mm make below wooden flooring / vinyl flooring , to achieve perfect level as per the requirements of the Wooden / vinyl flooring vendor all other complete with approved brand and quality as per tender technical specification & the directions of Engineer-in charge..

29. **Supply and Installation of Flooring:** Supply and Installation of vinyl Flooring: The floor finish should be laid with 2 -3mm antistatic seamless conductive PVC Roll on a semi-conductive adhesive base. The floor should be scratch resistant, fire resistant, chemical resistant, non-corrosive, slip resistant, smooth, anti-fungi, antimicrobial impervious material conductive enough to dissipate static electricity but not conductive enough to endanger personnel from electric shock. The floor finish should pass over a concealed cove former and continue up the wall for 100mm. The floor should be provided flat to within a tolerance of ± 3 mm over any 30 Sq.mtr areas. Copper grounding strip (0.05 thick, 50 mm width) should be laid flat on the floor in the conductive adhesive and connect to copper wire of grounding. The connection from copper grid should be brought out uniformly at places to form equipotential grid. Continuous roll should be used and all the joints should be welded by heat fusion process to get seamless floor. The joints in the flooring should be sealed by using a PVC welding bar of matching colour and hot air gun for fusion of welding bar with flooring to provide a continuous sealed surface, coving of above Vinyl flooring if required, confirming the European/US standards. The sheets should be highly durable with resistance to shock, scratch proof and indentation. Corners should be uniformly curved. The conductive material should be uniformly impregnated as grains. The floor should be inert to body fluids, chemicals, detergents and disinfectants and it should not be affected by temperature variation. Colour should be uniform, pleasant and matching with ambience. The vinyl Flooring should be made of a durable and uniform material that should be easy to clean and extremely hygienic. and as per technical Specification with all other fittings wherever required for vinyl Flooring all are including GST, Lay-out Drawing, Installation, Transport, Packing charges & all other complete with approved brand and quality as per tender technical specification & the directions of Engineer-in charge. (Note-Payment will be made after the Complete fixation of vinyl Flooring & Measurement for payment as per the front elevation i.e only Length x Width of the vinyl Flooring) .

30. **Supply and Installation of Cement Bonded prelaminated/Decorative particle board Wall Panel:**(Inside Patient Room) Providing and fixing internal wall panels on Light gauge steel frame work with fixed on Cement Bonded prelaminated/Decorative particle board 12 mm(tolerance of ± 1.5 mm) (Termite, Fire & Moisture Resistance), as per IS:15786 : 2008 of standard sizes fixed with self-drilling / tapping screws / fasteners @ 60cm c/c of approved make, Screws shall be of counter sunk rib head of 1.60mm to 4 mm thick or 8 to 10 gauge of length varying from 25 to 45 mm. Proper tapping and jointing to be done using fiber mesh tape and epoxy and acrylic based jointing compound for seamless finish.(cost of frame work to be paid for separately)

31. **Structural steel work riveted, bolted or welded** in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.

32. **Providing and fixing stainless steel (Grade 304) railing** made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts , bolts and rubber gasket complete, i/c fixing of the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).

33. **Providing and fixing Anchor Fastener/bolt** of 12mm dia and 100-150mm length with applying of chemical for anchoring including all complete as per direction of Engineer-in-charge.

34. **Finishing with Epoxy paint (two or more coats)** at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. On steel work

35. **Providing and fixing of Corner Guards:** Providing and fixing of Corner guards as per design & specs corner guard superior wall mounted impact resistance from carts, language, beds and trolley stretchers and wheelchairs with 1.5 mm aluminium retainers with thick. 2 mm vinyl top cover with width of 75 mm x 75 mm of length 2.45/3.00 mtr and 10 mm offset along with continuous outside corner all complete. as per the directions of Engineer-in-charge.

36. **Supply and Installation of Automatic Hermetically Sealed Sliding Door :** Supply and Installation of Automatic Hermetically Sealed Sliding Door : Size 2100mmx 1500mm with 300x 3000mm view panel or Size 2100mm x 1000mm with 300mm x 300mm view panel. Automatic hermetically sealed sliding door with single leaf, for use in controlled bacteria environments, the door can be installed in conventional masonry walls or prefabricated self-loading systems. Telescopic linings on three sides, made in two parts, the frame profile and the sub frame profile, made of extruded aluminium elements shaped with wide radius curves. The frame profile is equipped internally with specific grooves designed to accommodate the friction gasket that joins it to the sub frame profile. In addition, the frame profile features a groove utilized for fixing purposes. The foregoing groove is closed by means of a cover gasket that is completely coplanar with the frame profile. The profiles can be 'finishing in anodized aluminum or painted with: durable thermosetting epoxy powder finish. Housing profile to protect and cover the sliding mechanism made of extruded aluminium shaped with a wide radius curve without live edges or protrusions, to ensure ease of cleaning. The housing profile features a groove designed to receive the masking gasket that allows the complete closure of the lower side in correspondence with top profile of the door leaf. The ends of the housing profile are fitted with end caps having an identical radius of curvature to the profile and performing a closing function. Automation for sliding doors, complete with: Operating system transmission with antistatic drive belt reinforced with Kevlar beads; 230 V AC — 50 Hz power supply with short-circuit protection; High-performance low-wear DC motor; Status signaling and fault indicator LEDs. Electronic controller: Teach-in function with self-diagnostics and error recognition with evaluation of door leaf weight and sliding friction for adaptation of transmitted drive torque; ; Pause time for fully open door Independently adjustable opening and closing speeds. Anti-crushing function with closing movement reversal. and as per technical Specification with all other fittings wherever required for all are including GST,Lay-out Drawing , Installation, Transport, Packing charges & all other complete with approved brand and quality as per tender technical specification & the directions of Engineer-in charge. (Note-Payment will be made after the Complete SITC of Automatic Hermetically Sealed Sliding Door& Measurement for payment as per the Nos of the Door) .

37. **Supply and Installation of Manual Hermetically Sealed Sliding Door :** Size 2100mmx 1000mm with 300x 3000mm view panel or Size 2100mm x 1000mm with 300mm x 300mm view panel. Automatic hermetically sealed sliding door with single leaf, for use in controlled bacteria environments, the door can be installed in conventional masonry walls or prefabricated self-loading systems. Telescopic linings on three sides, made in two parts, the frame profile and the sub frame profile, made of extruded aluminium elements shaped with wide radius curves. The frame profile is equipped internally with specific grooves designed to accommodate the friction gasket that joins it to the sub frame profile. In addition, the frame profile features a groove utilized for fixing purposes. The foregoing groove is closed

by means of a cover gasket that is completely coplanar with the frame profile. The profiles can be 'finishing in anodized aluminum or painted with: durable thermosetting epoxy powder finish. Housing profile to protect and cover the sliding mechanism made of extruded aluminium shaped with a wide radius curve without live edges or protrusions, to ensure ease of cleaning. The housing profile features a groove designed to receive the masking gasket that allows the complete closure of the lower side in correspondence with top profile of the door leaf. The ends of the housing profile are fitted with end caps having an identical radius of curvature to the profile and performing a closing function.

38. Providing and fixing factory made single extruded WPC (Wood Polymer Composite) solid door/window/Ceoseatory windows & other Frames/Chowkhat comprising of virgin PVC polymer of K value 58-60 (Suspension Grade), calcium carbonate and natural fibers (wood powder/ rice husk/wheat husk) and non toxic additives (maximum toxicity index of 12 for 100 gms) fabricated with miter joints after applying PVC solvent cement and screwed with full body threaded star headed SS screws having minimum frame density of 750 kg/cum, screw withdrawal strength of 2200 N (Face) & 1100 N (Edge), minimum compressive strength of 58 N/mm², modulus of elasticity 900 N/ mm² and resistance to spread of flame of Class A category with property of being termite/borer proof, water/moisture proof and fire retardant and fixed in position with M.S hold fast/lugs/SS dash fasteners of required dia and length complete as per direction of Engineer-In- Charge. (M.S hold fast/lugs or SS dash fasteners shall be paid for separately).

Note: For WPC solid door/window frames, minus 5mm tolerance in dimensions i.e depth and width of profile shall be acceptable. Variation in profile dimensions on plus side shall be acceptable but no extra payment on this account shall be made. Frame size 65 x 100 mm".

39. Providing and fixing factory made single extruded WPC (Wood Polymer Composite) solid plain flush door shutter of required size comprising of virgin polymer of K value 58-60 (Suspension Grade), calcium carbonate and natural fibers (wood powder/ rice husk/wheat husk) and non toxic additives (maximum toxicity index of 12 for 100 gms) having minimum density of 650 kg/cum and screw withdrawal strength of 1800 N (Face) & 900 N (Edge), minimum compressive strength 50 N/mm², modulus of elasticity 850 N/mm² and resistance to spread of flame of Class A category with property of being termite/borer proof, water/moisture proof and fire retardant and fixing with stainless steel butt hinges of required size with necessary full body threaded star headed counter sunk S.S screws, all as per direction of Engineer-In Charge. (Note: stainless steel butt hinges and necessary S.S screws shall be paid separately)30 mm thick

40. Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at\ junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitered and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P.brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) : **For fixed portion Powder coated aluminium** (minimum thickness of powder coating 50 micron)

41. Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at\ junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitered and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P.Brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) : For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately) Powder coated aluminium (minimum thickness of powder coating 50 micron)

42. **Providing and fixing glazing in aluminium door**, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge. (Cost of aluminium snap beading shall be paid in basic item) With float glass panes of **5 mm thickness** (weight not less than 12.50 kg/ sqm)

43. **Providing and fixing Sliding Roller** (best make of approved quality) for aluminium sliding door. all complete. as per the directions of Engineer-in-charge.

44. **Providing and fixing aluminium anodised handles** (American design with anodic coating), transparent or dyed to required colour or shade, with necessary screws etc. all complete. as per the directions of Engineer-in-charge. 150 mm

45. **Providing and fixing aluminium sliding door bolts**, anodised (anodic coating not less than grade AC 10 as per IS : 1868), transparent or dyed to required colour or shade, with nuts and screws etc. complete : 300x16 mm

46. **Providing and fixing aluminium tower bolts**, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. all complete. as per the directions of Engineer-in-charge. : 200x10 mm

47. **Providing and fixing aluminium hanging floor door stopper**, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade, with necessary screws etc. all complete. as per the directions of Engineer-in-charge. Twin rubber stopper

48. **Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer** (having brand logo with ISI, IS : 3564, embossed on the body, door and door width from 701 mm to 1200 mm), with double speed adjustment with necessary accessories and screws etc. complete. (Make Godrej C071 Aluminum Alloy Door Closer (Metallic Silver))

49. **Providing and fixing bright finished 100 mm mortise lock & Key** (Narrow Stile) (Godrej or Doorset) with four lever and of approved quality with necessary screws etc. all complete. as per the directions of Engineer-in-charge.

50. **Providing and fixing of Aluminium composite panel on Structural steel work** with all necessary fittings & others as approved quality & make as per the directions of Engineer-in-charge.

51. **Providing and fixing ISI marked flush door shutters conforming to IS : 2202** (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters. 35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws

52. **Providing and fixing 12mm thick frameless toughened glass door shutter**: Design, Providing and fixing of 12 mm Toughened Glass partitions upto 3.50 M with proper machine edge finish in angle & fixed in the flooring with Aluminium 'U' channel & flushed with the ceiling. Glass panels to be formed as per approved modules 12 mm thick clear toughened glass with beveled edge polished and accurate designed holes to be installed by means of steel angle or spider fittings of an approved make Saint Gobain / Asahi or equivalent. The structural Glass walls system shall be complete with proper water tight silicon sealants /gaskets. M.S Brackets to support the structure system shall be hot dipped galvanized and slots in the brackets to be pre-drilled not flame cut. All bolts, nuts, washers shall be 300 series non-magnetic stainless steel and lock washers to be provided at all bolting connections. All structural silicone shall be of Dow Corning make. The Rates includes all material, Labour, Wastages, Cost of scaffolding, fixing & Finishing with frosted design film etc. Complete as approved all work executed as per the directions of Engineer-in-charge.
Note:- The rate shall includes labour, transportation, other making charges, T&P, scaffolding, other incidental charges including wastage of glass, enabling temporary services (ply framing for proper glass

cutting & framing &etc) & Etc all complete. (For the purpose of payment, actual Front elevation area of Glazing shall be measured i.e Length x Height).

53. Providing and fixing 12mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & double acting hydraulic floor spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer in charge (Door handle, lock and stopper etc. to be paid separately).

54. Providing and fixing factory made uPVC white colour casement/ Casement cum fixed glazed door comprising of uPVC multi-chambered frame, sash and mullion (where ever required) extruded profiles duly reinforced with 1.60 ± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), uPVC extruded glazing beads of appropriate dimension, EPDM gasket, zinc alloy (white powder coated) 3D hinges and one handle on each side of panels along with zinc plated mild steel multi point locking having transmission gear, cylinder with keeps and one side key, G.I fasteners 100 x 8 mm size for fixing frame to finished wall and necessary stainless steel screws, etc. Profile of frame & sash shall be mitred cut and fusion welded at all corners, mullion (if required) shall be also fusion welded including drilling of holes for fixing hardware's and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. (Single / double glass panes and silicon sealant shall be paid separately). Variation in profile dimension in higher side shall be accepted but no extra payment on this account shall be made. Note: For uPVC frame, sash and mullion extruded profiles minus 5% tolerance in dimension i.e. in depth & width of profile shall be acceptable. 9.147C.1 Casement door with 3D hinges made of (big series) frame 67 x 64 mm & sash 67 x 110 mm both having wall thickness of 2.3 ± 0.2 mm and single glazing bead / double glazing bead of appropriate dimension. (Area of door upto 2.00 sqm).

55. Internal Signage : Providing & fixing 5 mm thick Acrylic Sheet router cut into provided size with LG SAV with Eco-Solvent print and over lamination pasted on acrylic sheet.
Fixing Procedure.

(a) For Wall Mounted Signage. Plastic picture plate mount flush to architectural surface with non-visible screws as required for secure and stable mounting

(b) For Hanging Signage. Stainless Steel chain/ 25mm D-clamp make perfect / equivalent brand attached with the sign.

(c) For Projected Signage. Acrylic sheet fixed with Aluminium "C" channel with adjustable nuts , all complete with approved brand and quality as per the directions of Engineer-in charge . (Note-Payment will be made as per the Acrylic Sheet Signage fixing area - SQM)"

56. Providing and fixing 19mm thick BWP grade ply as per IS 710 of approved brand (one side decorative 1mm thick and other side balancing lamination 0.8mm thick) for boxes, shelves, racks, almirah, cupboard and drawer etc. with all other Accessories to be fitted: including providing and fixing on wall & floor with necessary nails, screws necessary Hardware & making necessary provision for all other Hardware fittings and wherever required making it good, all complete. as per the directions of Engineer-in-charge. (Note-Payment will be made only as per the board surface Area & channel, roller, handles, lock, Hinges paid separately).

57. Providing and fixing cupboard shutter with 19mm thick one side decorative(1mm thick) and other side balancing lamination (0.8mm thick) BWP grade block board as per IS 710 of approved brand including 2mm thick PVC edge banding tape with hot glue by edge bending machine etc along with all other Accessories to be fitted: including providing and fixing on wall & floor with necessary Hardware & making necessary provision for all other Hardware fittings and wherever required making it good, all complete. as per the directions of Engineer-in-charge.(Note-Payment will be made only as per the board surface Area & Payment of providing and fixing channel, roller, handles, lock, Hinges shall be paid separately).

58. Providing and fixing 12 mm thick BWP grade marine ply as per IS 710 for boxes, shelves, racks, almirah, cupboard and drawer etc of required size category with property of being termite/borer

proof, water/moisture proof and fire retardant and fixing with stainless steel screws, necessary nails etc . all as per direction of Engineer-In Charge.

59. **Providing and fixing 06 mm Flexible plywood BWP grade as per IS 710** for the curved surfaces With high bending property for curve Table ,boxes, shelves, racks, almirah, cupboard and drawer etc of required size category with property of being termite/borer proof, water/moisture proof and fire retardant and fixing with stainless steel screws, necessary nails etc . all as per direction of Engineer-In Charge.

60. **Providing & Fixing decorative high pressure laminated sheet** of plain / wood grain in gloss / matt/ suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality.**1.0 mm thick**

61. **Providing & Fixing decorative high pressure laminated sheet** of plain / wood grain in gloss / matt/ suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality. **0.8 mm thick**

62. **Providing and fixing stainless steel fancy handle** of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge.200 mm

63. **Providing and fixing stainless steel Stainless steel butt hinges** 75x47x1.8 mm 0 degree L-shape hinges cupboard shutters with full threaded steel screws including making necessary recess in board and finished etc. complete as per direction of Engineer-in-charge.

64. **Providing and fixing Stainless Steel 304 Furniture** Legs/Buffer Round/Square (100mm-200mm) of approved brand and quality as per direction of engineer in charge.

65. **Providing and fixing stainless steel soft closing heavy type telescopic drawer** channels of approved make 500 mm long with screws etc. complete as per directions of Engineer- in-charge.

66. **Providing and fixing special quality bright finished brass cupboard** or ward robe locks with four levers of approved quality including necessary screws etc. complete.50 mm

67. **Providing and fixing special quality bright finished brass cupboard** or ward robe locks with four levers of approved quality including necessary screws etc. complete.65 mm

68. Providing and fixing bright finished brass handles with screws etc. complete: 75 mm

69. Providing and fixing 50 mm bright finished brass cup board or wardrobe knob of approved quality with necessary screws.

70. Providing and fixing Granite stone slab of 18 mm thick(Any approved colour tolerance of ± 2 mm) gang saw cut, mirror polished, pre moulded and pre polished, machine cut for plywood top table ,cabinet ,kitchen platforms, vanity counters, window sills and similar locations of fixing with require adhesive, approved size, shade, colour and textures , joints treated with grouting compound, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding, polishing of edges & Wastage to give high gloss finish etc. complete at all levels complete the work as per direction of Engineer in Charge..

71. Supply and Installation of List Board (writing board) :Writing Board as operating list Board of Size of the unit should be not less than 940mm width x 640mm height x 50mm depth. It should be made of ceramic having magnetic properties and should be flushed to the wall of the operating Room.

72. Engaging of Beldar or Coolie for sifting of Existing Materials, Dismantling of existing all Plumbing works/fixtures and stacking the removed material in proper way & others misc work as per site requirements perform all the work as per the direction of EIC.

73. **Dismantling W.C. Pan of all sizes** including disposal of dismantled materials i/c malba all complete as per directions of Engineer-in-Charge.

74. **Dismantling of flushing cistern of all types** (C.I./PVC/Vitreous China) including stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead. each 744.60.

75. **Supply and Installation of Stainless Steel 2 Bay Scrub Sink** foot switch 2 bay scrub sink made out of 304 grade brushed finished stainless steel, 1600mm length, with electrical sensors, 1 Nos. Mixture valve, 2 Nos. Solenoid valves with manual mode (Hot water and cold foam type flow) extended operating lever, swinging spout and surgical purpose handle complete with all accessories as required and making good the walls wherever required.

76. **Providing and fixing white vitreous china floor mounting / wall mounted pedestal type water closet (European type)** with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required : W.C. pan with ISI marked white solid plastic seat and lid.

77. **Providing and fixing of vitreous china white Wall hung oval / circular Type wash basin** with CP Brass Deck Mount Deck Mounted Bib cock, CP brass waste assembly, wall flanges and rubber adapters for waste connection complete including CI/MS brackets duly painted, nuts, washers, cutting and making good the walls floors wherever required. as per direction of Engineer-in-charge.

78. **Providing and fixing wash basin with C.I. brackets**, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:
White Vitreous China Wash basin size 630x450 mm with a pair of 15 mm C.P. brass pillar taps".

79. **Providing and fixing CP Brass 2 in 1 system Bib Cock** with wall Flange of approved quality & make as approved by Engineer in charge.

80. **Providing and fixing of C.P. brass health faucet** of approved quality conforming to IS standards as per direction of Engineer-in-charge.

81. **SITC of CP brass wall / counter mounted single lever sink mixer** with C.P. wall flange, overhead swinging spout complete as required and making good.

82. **Providing and fixing CP Brass Single lever telephonic wall mixer** of quality & make as approved by Engineer in charge. (a) 15 mm nominal dia.

83. **Providing and fixing C.P. brass Bib Cock** of approved quality conforming to IS:8931 : 15 mm nominal bore"

84. **Providing and fixing C.P. brass shower rose** with 15 or 20 mm inlet :150 mm diameter

85. **Providing and fixing C.P. brass stop cock** (concealed) of standard design and of approved make conforming to IS:8931. 15 mm nominal bore complete as required.

86. **Providing and fixing C.P. brass angle valve** for basin mixer and geyser points of approved quality conforming to IS:8931 .15mm nominal bore"

87. **Providing and fixing uplasticised PVC connection pipe** with brass unions :45 cm length , 15 mm nominal bore"

88. **Providing and fixing PTMT towel ring** trapezoidal shape 215 mm long, 200 mm wide with minimum distances of 37 mm from wall face with concealed fittings arrangement of approved quality and colour, weighing not less than 88 gms.
89. **Providing and fixing toilet paper holder** :C.P. brass with PVC rawl plug & C.P. brass screw complete as required.
90. **Providing and fixing CP Brass 32mm size Bottle Trap** (with 75 mm clear water seal fitted with built-in Air Admittance valve of adequate capacity with factory supplied extension piece)of approved quality & make and as per the direction of Engineer-in-charge.
91. **Providing and fixing PTMT liquid soap container** 109 mm wide, 125 mm high and 112 mm distance from wall of standard shape with bracket of the same materials with snap fittings of approved quality and colour, weighing not less than 105 gms.
92. **Providing and fixing 600x450 mm beveled edge mirror** of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.
93. **Providing and fixing 600x120x5 mm glass shelf** with edges round off, supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, Rawl plugs etc., complete.
94. **Providing & fixing white vitreous china water less urinal** of size 600 x 330 x 315mm having antibacterial /germs free ceramic surface, fixed with cartridge having debris catcher and hygiene seal.
95. **Providing and fixing toilet paper holder**: C.P. brass of approved quality conforming to IS standards as per direction of Engineer-in-charge.
96. **Providing and fixing PTMT grating** of approved quality and colour. Circular type,125 mm nominal dia with 25 mm waste hole with Cockroach proof SS strainer of approved design including setting in floor with cement motor to match with floor finish as per architect requirement suitable for waster and FT.
97. **Providing, fixing solid state, no touch operating, fully hygienic hand drier** of approved shade with single blower, with time delay, summer & winter control, music while drying, volume ON/OFF controls including providing necessary brackets, cable from drier to Plug, plug top key and lock etc, complete as required.
98. **Providing & Fixing of long Hand Shower** with 2.00m Flexible Hose Pipe & Wall Hooke & Other accessories of approved quality as per direction of Engineer-in-charge.
99. **Providing & Fixing of Stainless-Steel Tube Coated with Anti-bacterial Nylon Grab bars** Movable (Horizontally & Vertically) 35 mm fixing adjacent to WC Area with all other accessories of approved quality as per direction of Engineer-in-charge.
100. **Providing & Fixing of Straight Grab Bar** 600mm long, 35mm dia of approved quality as per direction of Engineer-in-charge.
101. **Providing & Fixing of L-Shape Grab bar**, 750mm x 400mm, 35mm dia of approved quality as per direction of Engineer-in-charge.
102. **Providing & Fixing of Swing Grab bar**, 600mm long, 35mm dia of approved quality as per direction of Engineer-in-charge.

103. **Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes** (Size: 15/20/25/32 mm dia), having thermal stability for hot & cold-water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. Concealed work, including cutting chases and making good the walls etc.

104. **Making connection of drain or sewer line with existing manhole** including breaking into and making good the walls, floors with cement concrete 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) cement plastered on both sides with cement mortar 1:3 (1 cement : 3 coarse sand), finished with a floating coat of neat cement and making necessary channels for the drain etc. complete : For pipes 100 to 250 mm diameter".

105. **Cutting holes up to 15x15 cm in R.C.C. floors and roofs** for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including finishing complete so as to make it leak proof.

106. **SITC of PVC Soil, Waste & Vent system** (Size: 75/110/160 mm dia) conforming to IS : 13592 - Type B and PVC fittings (mould-ed as well as fabricated) like Floor Traps formed out of bore 'S' trap with 50 mm water seal, bends, tees, Y-tees, crosses, boss connections, access pieces, saddle pieces, clean outs, adaptor for connections to other materials, plugs, reducers, cowls, offsets and other specials. Jointing shall be done with push fit EPDM ring jointing technique in general. Solvent cement joints may be provided for fittings and specials which are not manufactured with push fit rubber joints. Pipes may be laid / fixed in floors, under slung from ceiling. The pipes laid in sunken floor shall be encased with cement concrete (1:2:4) all around. The installation shall be complete in all respects including cutting chases / holes in walls, slabs, jointing of pipes & fittings with one step CPVC solvent cement, the cost of cutting chases and making good the same including testing of joints & Carefully Remove of Ceiling & fixing the pipe on main Roof ceiling(In-cling Hanging Clamp)after work fixing the ceiling Tile Grid, fixing the ceiling complete as per direction of Engineer in Charge. Concealed work, including cutting chases and making good the walls etc.

HVAC WORKS

1. Dismantling of existing all HVAC works/fixtures and stacking the removed material in proper way as per direction of Engineer-In-Charge or his representative. (AHU, Pipeline, Ducting, Insulation, Diffuser & Grills etc.)
2. **Chilled Water Piping, Valves & Other Accessories** : Supplying, laying/ fixing, testing and commissioning of following nominal sizes of chilled water piping plumbing inside the building (with necessary clamps, vibration isolators and fittings but excluding valves, strainers, gauges etc.) duly insulated with following closed cell elastomeric nitrile rubber of minimum 45 kg/ cu m density, thermal conductivity 0.037 w/mk or better at 20 deg mean temperature Class 'O' insulation applied by suitable adhesive complete including repairing of damage to building etc. as per specifications and as required complete in all respect. **Pipe Size : 65/50/40 mm dia MS Pipes** (32mm thick insulation).

Note : The Pipes of sizes 150mm & below shall be M.S. 'C' class as per IS : 1239 and pipes size above 150mm shall be welded black steel pipe heavy class as per IS: 3589, from minimum 6 mm thick M.S. Sheet for pipes upto 350 mm dia. and from minimum 8 mm thick MS sheet for pipes of 400 mm dia and above. For Cooling System pipework: R value should be min. 0.35 sqmK/W below 15 degree Celsius. For Heating System pipework: R value should be min. 0.74 sqmK/W for 60 degree Celsius & above & min. 0.35 sqmK/W for temp. between 40 to 60 degree Celsius. Insulation thickness for pipe shall be as per technical specifications.

3. **Insulated valve** : Supplying, fixing, testing and commissioning of following valves, strainers, gauges in the chilled/hot water plumbing duly insulated to the same specifications as the connected piping and adequately supported as per specifications. **BUTTERFLY VALVE (MANUAL)** with C I body SS Disc, Nitrile

Rubber Seal & O- Ring PN 16 pressure rating for chilled water circulation as specified. **Valve Size ; 65/50/40 mm dia**

4. **Y - STRAINER** of Ductile CI Body flanged ends with stainless steel strainer for chilled circulation including insulation as specified. **Y-Stainer Size : 50/40 mm dia**

5. **AIR DISTRIBUTION (FOR AIR CONDITIONING AREAS):**

(a) **Aluminium Ducting** : Supply, installation, balancing and commissioning of factory fabricated Aluminum rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports (GI Chancel) etc. as per approved drawings and specifications of following sheet thickness complete as required.

(It shall be as per SMACNA standards). **Sheet Thickness : 0.8/1.1/1.25 MM**

Note:- UV coating & Mechanical protection shall be considered for exposed ducting insulation. GSS Duct with Soldering shall be provided for Critical area having 0.3 micron Filter in AHU.

(b) **G.I Ducting** : Supply, installation, balancing and commissioning of factory/site fabricated **GSS sheet** metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required. (It shall be as per SMACNA standards). GI sheet shall be 180GSM Coating. **Sheet Thickness : 0.63/0.80 MM.**

6. **Supply, installation, testing and commissioning of GI Volume Control Duct Damper** complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as per specifications and as per direction of Engineer-In-Charge or his representative.

7. **Supply, installation and testing of Canvass connection** for AHU ,CSU and TFA of Air- Conditioners as per direction of Engineer-In-Charge or his representative.

8. **SUPPLY / RETURN AIR DIFFUSERS:**

(a) Supplying, fixing testing commissioning of **Supply air diffusers** of powder coated aluminium with aluminium volume control dampers with anti-smudge ring & removable core as per specifications and as per direction of Engineer-In-Charge or his representative.

(b) Supplying, fixing testing commissioning of **Return air diffusers** of powder coated aluminium without volume control dampers with anti-smudge ring & removable core as per specifications and as per direction of Engineer-In-Charge or his representative.

9. **LAMINAR FLOW DIFFUSERS:** Supply and Fixing of Laminar Air Flow (LAF) arrangement with a cabinet (housing) of size 610 mm x 610 x 350mm depth made out of prime quality aluminum with powder coated. The cabinet will be hung from the suspension rod. Access for servicing & replacing HEPA Filters will be provided from the bottom side of the unit. HEPA Filters separator less Minipleat HEPA in aluminum extruded frames with wire mesh protection and made of Ultra Fine Glass fibre media having a retention capacity of 0.3 micron at 99.997% efficiency with initial pressure drop of 12 mm WC the filter media (HEPA Filters) made out of Micro glass fibers with an efficiency of 99.997% down 0.3 microns (6nos.) in each LAF cabinet.

10. **SUPPLY / RETURN AIR GRILLES:**

(a) Supplying & fixing of powder coated extruded aluminium **Supply Air Grills** with aluminium volume control dampers (18 Gauge) as per specifications and as per direction of Engineer-In-Charge or his representative.

(b) Supplying & fixing of powder coated extruded aluminium **Return Air Grill** with louvers but without volume control dampers complete as required and as per direction of Engineer-In-Charge or his representative.

11. **FIRE DAMPERS:** Supplying, Fixing, testing and commissioning of Fire Dampers and Actuator with Control Panel in supply air duct/main branch and return air path as and where required of required sizes including control wiring. The damper shall be motorized and spring return so as to close the

damper in the event of power failure automatically and open the same in case of power being restored. The spring return action shall be inbuilt mechanism and not externally mounted. The damper shall also be closed in the event of fire signal complete as required and as per specifications. Supplying, Fixing, testing and commissioning of Actuator with control panel shall also be carried out as per direction of Engineer-In-Charge or his representative.

12. INSULATION FOR OTHER AREA :

(a) **Supplying of 19 mm (for return Air Duct) and 25 mm (for supply Air Duct)** thickness duly laminated aluminum foil of mat finish closed cell Nitrile rubber (Class "O") insulation on existing duct after applying suitable adhesive for Nitrile rubber. The joints shall be sealed with 50 mm wide and 3 mm thick self-adhesive nitrile rubber tape insulation complete as per specifications and as required.

(b) **Supplying, installation, testing & commissioning of acoustic lining** of supply air duct and plenum with 25 mm thick resin bonded glass wool having density of 32 kg/m³, with 25mm X 25mm GI section of 1.25mm thick, at 600 mm center to center covered with Reinforced elastic tissue paper and 0.5 mm thick perforated aluminium sheet fixed to inside surface of ducts with cadmium plated nuts, bolts, stick pins, CPRX compound etc. complete as required and as per specifications and as per direction of Engineer-In-Charge or his representative.

13. AIR HANDLING UNIT - for HDU and TICU (Tonnage - 20TR, CFM- 7500, Static Pressure – 130MMWG) (Supply Side):- Supply, Installation, testing and commissioning of **Floor Mounted (FM)** factory fabricated double skin type Air Handling Units (BMS compatible) including by-pass starter as per specifications and as per direction of Engineer-In-Charge or his representative given below:-

AHU Construction: - It shall be made out of min.0.8 mm pre-plasticized/pre-coated Galvanised steel sheet outside & 0.8 mm inside with 43 mm thick PUF insulation factory injected between them by injection moulding m/c, with density not less than 38 kg/Cum between them. Drain pan (made out of 1.25 mm stainless steel (SS Grade 304) sheet insulated with 19 mm thick closed cell insulation (Nitrile/XLPE) & thermal break profile. Necessary foundation required & anti-vibration pads shall be provided & cost for the same shall be included in this item (excluding civil work).

Supply Air Stream:-

- 1) Filter section consisting of pre filter and microbe/fine filter . Pre-filter section shall be with non woven synthetic media of 10 micron particle size with an efficiency of 90%, fine/microbe filter section will be with filters of non woven synthetic media of 3 micron particle size of efficiency 99%. HEPA filter shall be at the terminal as per above mentioned item. Cost of HEPA filter and housing not to be included in this item.
- 2) Plug type centrifugal Fan (with min. 70% efficiency) with blower motor, drive and flexible duct connection. The supply fan shall be provided with variable frequency drive and input / output signal compatible to BMS system.
- 3) 6/8 row deep cooling coil
- 4) 9Kw Strip Heater for monsoon reheat with control panel and thermo starter.
- 5) Discharge plenum section.
- 6) Mixing Box comprising of damper & filter section.
- 7) Heat Recovery Wheel
- 8) Ultraviolet Light

COIL- Copper tubes and Aluminium fins 12-13 fin./inch, Coil size shall be selected for air velocity of 350 ft/minute & velocity across filters at 350 ft/minute. Motors shall be suitable for 415 ± 10% volts, 50 Hz, 3 phase AC supply & high efficiency (EFF-1/IE-2). Vibration isolation shall be as per specifications and as shown on the drawings.

VFD:- VFD designed for HVAC applications with built-in PID controller, control panel (keypad & display) , **IP-54** enclosure for use on standard centrifugal plug fans. The display should be in alpha-numeric characters and programming facility should be in user-friendly HVAC terminology. VFD's shall have built-in harmonic filters. Each VFD panel to be provided with digital display showing electrical parameters like voltage, current and power consumption. Each VFD shall be installed in a dedicated external IP-65 enclosure and the inter connecting wires between driver and MCC shall be included.

Sound level 65 db at the distance of 2 mtr.(maximum). Squirrel cage induction motors suitable for 415 ± 10% volts, 50 Hz, AC supply & high efficiency (IE-2/EFF-1 Efficiency), H.P of motor shall be as per actual selection meeting other technical requirements.

14. CEILING SUSPENDED UNIT (CSU) for CORRIDOR, (Tonnage- 8 TR, CFM – 3600) :

Supply, Installation, testing and commissioning of factory fabricated double skin type Air Handling Units (BMS compatible) including by-pass starter as per specifications and as per direction of Engineer-In-Charge or his representative given below: -

CSU Construction: - It shall be made out of min.0.8 mm pre-plasticized/pre-coated Galvanised steel sheet outside & 0.8 mm inside with 43 mm thick PUF insulation factory injected between them by injection moulding m/c, with density not less than 38 kg/Cum between them. Drain pan (made out of 1.25 mm stainless steel (SS Grade 304) sheet insulated with 19 mm thick closed cell insulation (Nitrile/XLPE) & thermal break profile. Necessary supports required & vibration isolators shall be provided & cost for the same shall be included in this item (excluding civil work). Sound level 65 db at the distance of 2 mtr.(maximum) . Cost of starter panel and the inter connecting wires between driver and panel shall be included.

Supply Air Stream :

- 1) Filter section consisting of pre filter and microbe/fine filter . Pre-filter section shall be with non-woven synthetic media of 10 micron particle size with an efficiency of 90%,
- 2) Belt type centrifugal Fan (with min. 70% efficiency) with blower motor, drive and flexible duct connection. The supply fan shall be provided with variable frequency drive and input / output signal compatible to BMS system.
- 3) 6/8 row deep cooling coil
- 5) Discharge plenum section.
- 6) Mixing Box comprising of damper & filter section.
- 7) 3 Kw Strip heater for monsoon reheat with control panel and thermo-starter.

COIL- Copper tubes and Aluminium fins 12-13 fin./inch, Coil size shall be selected for air velocity of 350 ft/minute & velocity across filters at 350 ft/minute. Motors shall be suitable for 415 ± 10% volts, 50 Hz, 3 phase AC supply & high efficiency (EFF-1/IE-2). Vibration isolation shall be as per specifications and as shown on the drawings.

VFD:- VFD designed for HVAC applications with built-in PID controller, control panel (keypad & display) , IP-54 enclosure for use on standard centrifugal plug fans. The display should be in alpha-numeric characters and programming facility should be in user-friendly HVAC terminology. VFD's shall have built-in harmonic filters. Each VFD panel to be provided with digital display showing electrical parameters like voltage, current and power consumption. Each VFD shall be installed in a dedicated external IP-65 enclosure and the inter connecting wires between driver and MCC shall be included. Squirrel cage induction motors suitable for 415 ± 10% volts, 50 Hz, AC supply & high efficiency (IE-2/EFF-1 Efficiency), H.P of motor shall be as per actual selection meeting other technical requirements.

15. TFA: FOR 100% FRESH AIR FOR AHU:

Capacity 10TR/6000 CFM/35MMWC with filtration 10 micron down to 90% efficiency.

SITC of cabinet type Double skin (50 mm insulation with thermal profile) Ceiling Suspended TFA complete with Pre-Filter, 6-Row chilled water-cooling coil, backward/ forward curved fan, an IE3 efficiency class motor of suitable rating motor and drive package, canvas at unit outlet, Damper, spring type vibration isolators for the fan. rubber pad shall be provided between the unit frame and the concrete base frame. TFA fan shall be mounted on common base frame with necessary spring isolators with squirrel cage TEFC, 415± 10% volts, 50 cycle, 3 phase AC power supply, IP55, SI duty, IS325, Class F insulation. Motor, chilled water Coil with 1/2-inch 24G copper pipes properly brazed with MS header, 6-Row Deep, drive package with fenner taper Lock pulley, 20-micron HDPE 3 ply washable cassette filter, aluminium 20G filter frame, filter bank with access door, door limit switch, Emergency marine light. SS drain tray & as per specifications mentioned in technical data sheet and as per direction of Engineer-In-Charge or his representative.

16. CENTRIFUGAL FAN SECTION: FOR GENERAL EXHAUST FROM ICU:

Area -HDU/ TICU, CFM of each equipment - 6000

Supply, installation, testing, commissioning of, double skin with 0.80 mm thick GI Sheet and 0.80 mm thick pre-painted GI sheet casing with Fan section consisting of **Centrifugal Fan**, backward curved,

DIDW, consisting of TEFC motor 415 +/- 10% volts, 3 Phase, 50 Hz, drive arrangement, common frame for fan and motor with metallic vibration isolator. Fan-motor assembly (as whole) shall be statically & dynamically balanced. with inspection window, double flexible connections, fan mounting arrangement, VCD at outlet Belt driven, slide rails etc. Motor shall conforming to efficiency grade IE3. Complete as per detailed specification and drawing. Fan sections shall be suitable for outdoor duty. The cost shall be inclusive of starter panel with VFD. Vendor to reconfirm the Fan Motor HP as per manufacturer recommendation and as per direction of Engineer-In-Charge or his representative.

17. **Supply, installation, testing and commissioning of Cabinet type Inline Exhaust Fan** complete with direct driven centrifugal fan following CFM capacity (400 CFM / 15 MM SP & 200 CFM / 10 MM SP). Direct drive arrangement, heavy gauge sheet metal casing, rubber isolator mounts and other accessories, suitable for 220/240 volts, single phase, 50 Hz, AC supply etc. complete as required as per specifications and as per direction of Engineer-In-Charge or his representative.
18. **Supply, installation, testing and commissioning of Magnehelic Pressure Gauge** for Differential Pressure check in isolation room as per direction of Engineer-In-Charge or his representative. Gauges are widely utilized for measuring pressure of fan and blowing machine. (Range 0 to 80 Kpa) as per direction of Engineer-In-Charge or his representative
19. **Supply, installation, testing and commissioning of Air-Curtain** with limit switch as Compatible for the 2400 mm door width. ISO9001:2015, CE certified air curtains in white colour suitable for wall / ceiling mounting having copper motor winding, Suitable for height up to 10 feet and should operate on 220v + - 10%, 50 Hz, single phase AC supply as per direction of Engineer-In-Charge or his representative.
20. **Supply, installation, testing and commissioning of 230V Fan Filter Unit (Each Fan 750 CFM)** with regulating control for clean room. Rust proof aluminium/Self contain stainless steel / galvanism / powder coated steel FF is compact in size and can be easily installed in Clean Room ceiling grids. Control for FFUs can be: 3 speed on device control, 3 speed remote control as per direction of Engineer-In-Charge or his representative
21. **HI WALL SPLIT UNITS (1.5 TR Capacity) - INVERTER DRIVEN COMPRESSOR (3-Star rating or above):**
Supply, Installation, testing and commissioning of Air-cooled Hi-wall/Cassette split air conditioners **(1.5 TR Capacity)** each comprising an outdoor unit(s) consisting of inverter driven compressor, air cooled condenser, condenser fan along with Cooling thermostats etc. with outer casing and indoor fan coil unit consisting of centrifugal fans, fan motor, DX cooling coil, outer casing, filter, control and power panel with remote etc. entire cabling and wiring from indoor to outdoor, insulation and with full charge of refrigerant gas and oil, supports, canvas connection etc. complete as per drawings. The indoor and outdoor units shall be with structural steel supports, angles, rods etc. The quoted price shall also include 24 G soft copper refrigerant piping with 13mm "O" class factory backed nitrile rubber with aluminium foil from outdoor unit to indoor unit complete with insulation, refrigerant charging, PVC drain piping with 6mm thick nitrile rubber insulation, supports, clamps, fittings, connections, sleeves, supports, MCB, stabilizer etc from main panel to the unit. The refrigerant used shall CFC Free R-410 A as per direction of Engineer-In-Charge or his representative.
22. **PICB VALVE (PRESSURE INDEPENDENT CONTROL & BALANCING VALVE)/HIGH RANGABILITY:**
Supply, Installation Testing and Commissioning of PICBV (pressure independent valves (PN-16 rated) with modulating, 2- way control device (40/50 mm dia Modulating type AHU Valves). The Valve should have self-Dynamic Flow Control Valves that are pressure independent, modulating to accept digital/analog input BMS/Controller signals and should provide position feedback signal to the control system. It should be diaphragm type & pressure balancing valve. Pressure Drop across the valve must not exceed 20 kpa up to DN 32 and 30 Kpa in bigger Sizes. Actuator should be Gear type only shall be rated to IP54. Valve shall be of Brass Construction up to DN32 and Cast Iron up to DN150. Valve & Actuator combination should be able to give logarithmic control characteristics to achieve linear control as per direction of Engineer-In-Charge or his representative.
23. **Supply, installation, testing and commissioning of Cooling/Heating Thermostats** for various Air Handling Units and Fan Coil Units as per specifications including all accessories, mountings, wiring

between thermostat & unit, terminations etc.(BMS Compatibility to be provided) as per direction of Engineer-In-Charge or his representative.

24. **Supply, installation, testing and commissioning of Auto Purge Valves** (25/32 mm dia) of brass construction with screwed ends duly insulated as per specifications and drawings complete in all respect as per direction of Engineer-In-Charge or his representative.
25. **Providing and fixing in position the industrial type pressure gauges (Range : 0 to 10 Kg/Sq.Cm)** with gun metal/brass valves complete as required as per direction of Engineer-In-Charge or his representative.
26. **Providing & fixing in position the mercury in glass industrial type thermometer (Range : 0 to 30 Degree Celsius)** complete as required as per direction of Engineer-In-Charge or his representative.
27. **Supply, Installation, Dressing with Bends , Tees and union etc. of PVC DRAIN PIPING** with proper leak proof adhesive at joints duly insulated with **9 mm Nitrile rubber** and BOPP tape of following size (25/32 mm Dia PVC drain Pipe) as per direction of Engineer-In-Charge or his representative.
28. **SITC of 40A TPN MCB with 7.5 HP Three phase Motor with VFD** with bypass starter. Each of these compartment shall contain indicating lamp with ON/ OFF/ TRIP status of motors as per direction of Engineer-In-Charge or his representative.
29. **SITC of 40A TPN MCB with 5.5 HP Three phase Motor with VFD** with bypass starter. Each of these compartment shall contain indicating lamp with ON/ OFF/ TRIP status of motors as per direction of Engineer-In-Charge or his representative.
30. **SITC of Acoustic Insulation of AHU Room** wall with 50 mm thick, density 32 kg/cu. m resin bonded glass fibre insulation friction fixed in 610mm X 610mm frame work made of 25 x 50 x 50 x 50 x 25 mm made out of 0.6 mm thick GI sheet U shaped channel and covered with reinforced fibre glass tissue and finished with 0.80 mm perforated aluminium sheet etc. complete as required and as per specifications and as per direction of Engineer-In-Charge or his representative .
31. **SITC of Underdeck insulation** with 50 mm thick TF quality expanded polystyrene fixed to be slab with Rawl Plugs, covered with 22 SWG GI chicken wire mesh and held at all joints with washers and GI wire as per direction of Engineer-In-Charge or his representative.

MGPS WORKS

1. **SITC of Imported Surface mounted Gas Outlets (For Oxygen System)**- Front loading complying to HTM- 02-01 / NFPA 99/ DIN standard with matching probe.

The **Oxygen flow meters with humidifier and suitable adapter (Imported)** with 250cc humidifier bottle Polysulphone type as per direction of Engineer-In-Charge or his representative. Supply and Installation of Oxygen Flow meter: It should fully comply and meets with the requirements of the HTM 0201 standards. It shall be duly CE marked to the Medical Device Directive 93/42/EEC under the auspices of notified body no. and under this directive, med gas products are classified as Class IIb Medical Devices. It shall be provided with a copy of the certificate of origin from chamber of commerce. Pressure compensated to prevent back pressure build up on flow indicator. It should have cartridge knob, extremely reliable, easy-to-clean and ensuring an optimized adjustment. Perfect tightness of the knob thanks to its polyamide seat. The knob was tested under pressurized working conditions during more than 10,000 cycles without showing any leakage after closing. Expanded scale providing higher reading accuracy. Durable polycarbonate flow tube with cover. Monoblock scale cover made of polyamide for a higher sturdiness and a greater safety. The inopportune unscrewing of the Monoblock scale cover is not possible. Body made of nickel-plated brass, very strong. Flow meter should be placed in the vertical position. It should be light weight. The flow meters should be of 0-15lpm for oxygen and with inlet pressure 50-60psi. (4.5 bar). The closing of the knob should be without any leakage.

2. **SITC of H.P. tubing having anti-static core** as per ISO and as per direction of Engineer-In-Charge or his representative.
3. **SITC of Imported Surface mounted Gas Outlet (For Vacuum System)** - Complying to HTM- 2022/ NFPA 99/ DIN standard with matching probe as per direction of Engineer-In-Charge or his representative.
Supply and Installation of Low Flow Vacuum Regulator Unit: It shall fully comply and meets with active medical device of class IIa and in compliance with the EN ISO 10079-3: 2009 standard. It should be duly CE marked and comply with 93/42/EEC Medical Devices: General. It shall be CE marked with the notified body number specified. It should be continuous vacuum regulator, compact, strong and ergonomic device. It should have manual adjustment of the vacuum gauge from -45degree to +45degree for a better visibility. Vacuum gauge should be protected by a plastic housing. It should have on/off switch-button providing a quick restoration of the pre-adjusted vacuum level. It should have central regulation knob with a free rotation at the end of the course (impossible blocking). It should have quick adjustment :2.5turns are enough to reach the maximum vacuum level. It should have vacuum levels: 0-250 mbar/hPa. The vacuum regulator should be 3-in-1 system. It should have a device with a metal outlet tubing nipple integrated in the body of the regulator for a better safety, emergency suction can even be processed. It should be supplied with a 100ml safety jar equipped with a mechanical anti-over flow safety valve and single use antibacterial plastic filter upfront. The safety jar should be made of polycarbonate, autoclavable up to 134degree C and unbreakable. The safety jar should be fixed by an easy-click rotation. The safety jar should be able to rotate to avoid any pinch of the tubing. It should have a unit serial number laser engraved on the body of each vacuum regulator ensuring its identifications and traceability. It should be light weight 490g and dimensions (height230mm X Width 70mm X Depth 90mm).
4. **SITC of Ward Vacuum Unit** with Regulator, Polysulphone Collection Jar of 1000 ml with Bracket (Imported) as per direction of Engineer-In-Charge or his representative.
5. **SITC of Imported Surface mounted Gas Outlet (For Medical Air – 4 Bar)** Complying to HTM- 2022/ NFPA 99/ DIN standard with matching probe as per direction of Engineer-In-Charge or his representative.
6. **SITC of Medical Grade BSI Kite Mark & CE certified Copper Pipes/Tubes (28/22/15/12 mm OD x 0.9 mm thick)** as per detailed specifications and as per direction of Engineer-In-Charge or his representative. Copper pipes shall be of solid drawn, seamless, deoxidized, non-arsenical, half hard, tempered and degreased copper pipe. All copper pipes shall be degreased and delivered capped at both ends. The pipes shall be accompanied with manufacturers test certificate for the physical properties and chemical composition. The copper pipe shall comply with EN 13348 as amended up to the last date of receipt of tenders. The copper pipes shall be BIS Kite marked.

Copper pipe must have reputed third party inspection certificate (eg. Lloyd's, TUV, SGS). Fittings shall be made of copper and suitable for a working pressure of up to 17 bar and especially made for brazed socket type connections. The copper fitting shall comply with EN 1254-1 as amended up to the last date of receipt of tenders. The brazing filler material shall comply with EN 1044 as amended up to the last date of receipt of tenders.

7. **Gas Alarm - Imported as per HTM 02-01/NFPA/DIN std :**
Supply and Installation of Medical Gas Area Alarm: Oxygen, Air & Vacuum (3 Gas Service). It should fully comply and meets with the requirements of the Health Technical Memorandum 02-01 (HTM 02-01) standards only. It shall be duly CE marked to the Medical Device Directive 93/42/EEC under the auspices of notified body no. and under this directive, med gas products are classified as Class IIb Medical Devices. Condition Alarm Panel Display: NORMAL à 'NORMAL' indicator (steady) Alarm Condition à Alarm condition either: 'HIGH PRESSURE' indicator (flashing), 'LOW PRESSURE' indicator (flashing). All accompanied by audible alarm Line Continuity Fault à 'NORMAL' indicator (steady), Respective alarm indicator (steady), 'SYSTEM ALARM' (flashing). Audible alarm.
 Note: Press 'TEST' switch; Alarm indicator flashes slower than other LED's to indicate an open circuit or faster to indicate a short circuit. Data Cable Fault à All indicators on slave panel(s) flash., Audible

alarm. Power Failure à Power failure to panel SYSTEM. ALARM (flashing). Audible, 'POWER ON' indicator, Extinguished.

8. Area Valve Service Units Imported as per HTM02-01/ NFPA99/DIN std (With single gas service combination) :

Supply and Installation of Area Service Valve Unit Single Service for Oxygen with NIST Connection / Single Service for Air 4 Bar with NIST Connection /Single Service for Vacuum with NIST Connection It should fully comply and meets with the requirements of the Health Technical Memorandum 02-01 (HTM 02-01) standards only. It shall be duly CE marked to the Medical Device Directive 93/42/EEC under the auspices of notified body no. and under this directive, med gas products are classified as Class IIb Medical Devices. There should have break glass emergency access fitted as standard. Should have optional quick release emergency access system. The Area Value Service Unit (AVSU) should incorporate a ball valve with NIST connectors either side, mounted in a lockable box with emergency access. The valve should be complete with copper stub pipes that extend to the outside of the box to enable easy connections to the Medical Gas Pipeline System (MGPS).

9. Supply and Installation of Pressure Gauge (0 - 16") and Sensor Alarms as per direction of Engineer-In-Charge or his representative.

10. SITC of Imported Ceiling Suspended Single Arm Medical Supply Unit : (with Outlets - 2xO₂ + 2xAir-4 + 2xVac + 10xElectrical Switch Sockets + RJ45 Socket): It shall comply with HTM standards/DIN ISO Standards, ISO11197:2019, ISO 9170-1:2008, ISO 10993-1:2021, EN 62471:2008, IEC 60601-1-2005+AMD1:2012+AMD2:2020. It shall be European CE marked with the four-digit notified body number issued by notified body as specified. The external surfaces should be antibacterial paint which ensures 100% shield against infectious agent. It should be IP-20 Classification according to the degree of protection against penetration of liquids and external agents. It should have Electromagnetic Brakes with LED brake lights. It should have horizontal movement. Standard accessories: It should have two shelf made of solid material with handle and 2xDIN rails (L530xW460 mm) (capacity load 40Kg) and one drawer. It should have adjustable vertical pole made up of stainless steel with IV stand support made of aluminum hooks (4hooks). It should have pre-wired minimum 10(ten) 6/16amp electrical sockets. It should have pre-piped minimum six gas outlet points (2 oxygen, 2 air and 2 vacuum medical gas terminal outlet) as per direction of Engineer-In-Charge or his representative. The certificate for Country of Origin must be attached.

11. Supply and Installation of TICU Control Panel : It should be CE compliance under medical devices directive class-1. Copy of CE certificate must be submitted. It should be pro touch type. It should display gas status repeater, Day time Clock :1.8"H 7 segment LED (Green). Elapse time clock: 1.8"H 7 segment LED (RED), Temperature & Humidity Display: 1.0" , 7 segment LED (RED). It should have on /off control only for peripheral light. The frame will be made of steel with powder coating as per direction of Engineer-In-Charge or his representative.

12. Supply and Installation of Polysulphone collection jar of 1000ml with lid : It should be unbreakable and autoclavable upto 134° C must be fitted with an extremely simple anti-overflow safety device, thereby ensuring easy maintenance. Should be totally transparent, they ensure perfect sucked liquid visibility. The work shall be carried out as per direction of Engineer-In-Charge or his representative.

13. Supply and Installation of High-Pressure Antistatic Rubber Tube Colour Coded as per direction of Engineer-In-Charge or his representative.

14. Supply and Installation of X-Ray View Panel: The 2-plate X-Ray viewing screen system should have electrical safety codes for high & low voltage system. It should be designed to provide flicker free luminance for the film viewing purpose. It should be installed flushed with the TICU wall for hygienic and ease of cleaning purpose. The X-Ray viewing screen should be designed for the purpose of front access. The X-Ray viewing screen should be illuminated by 2 pieces of high frequency fluorescent lamps and the dimming is controlled by the usage of dimming ballast with the PCB that is mounted inside the box. Size of the unit should be not less than 940mm width x 640mm height x 50mm depth. It should

be CE compliance under medical devices directive class-1. Copy of CE certificate must be submitted. The work shall be carried out as per direction of Engineer-In-Charge or his representative.

15. **Pre piped Degreased Lockable isolation valves:** Supply and Installation of Line Isolation Valves (12/22/28 mm) : It should fully comply and meet with the requirements of the Health Technical Memorandum 02-01 (HTM 02-01) standards only. It shall be duly CE marked to the Medical Device Directive 93/42/EEC under the auspices of notified body no. and under this directive, medical gas products are classified as Class IIa or IIb Medical Devices. It shall be provided with a copy of the certificate of origin from chamber of commerce. Line Isolation valves and should comprise full-bore ball valve complete with copper stub pipes for ease of installation. Valve - connected to the copper stub pipes by means of flat faced unions fitted with nitrile O-ring seals, allowing removal of the valve without the need to distort the pipe work. Stub pipes will be connected to the valve body using screwed connectors, while valve above this size will use flanged connectors. Valve - Brass body, end cap and stem, with a full – bore chrome plated brass ball. Valve - Operate from fully closed to fully open with a quarter turn of the handle. All line valves - Supplied with a mechanism to enable the unit to be locked in the fully closed or fully open position. Supplied with copper stub pipes for ease of installation using inert gas jointing procedures. O-Ring Seals on the valve stub allow gas tight capping at a spur for further expression. The work shall be carried out as per direction of Engineer-In-Charge or his representative.

ELECTRICAL WORKS

01. **Electrical wirings** : All electrical wirings should be done by only FRLS PVC insulated copper conductor, single core cable in recessed with medium class PVC conduit. All wirings should follow colour coding as per the standard. There shall be one 4sq mm 1-ph circuit from emergency supply, one 4sq mm 1-ph circuit from UPS supply, one 6sq mm 1-ph circuit from emergency supply for industrial socket, 2 nos. of 2.5 sq. mm 1-ph circuit from emergency supply. There shall be two 4sq mm FRLS PVC insulated copper flexible cable of 1-ph circuit from UPS supply to giving supply to the pendent/ Bed head panel. All circuits should be maintained proper nomenclature.

02. **Power points in patient Chamber** : There should be 6 nos. of 6 pin 5/6 & 15/16 A modular socket outlet with 15/16 A modular switch, 2 nos. of 3 pin 5/6 A modular socket outlet and 5/6 A modular switch and 1nos. of 32 A, 240 V, SPN Industrial type socket outlet, with 2 pole and earth, metal enclosed plug top along with 32 A "C" curve, DP, MCB, in sheet steel enclosure for each bed. All modular switch, modular plate, suitable GI box should be antibacterial.

03. **Lights in patient Chamber** : 02 nos. of IP 65 42 WATT - Luminaire with illumination control arrangement consists of precisely manufactured, CRCA powder coated Housing, aluminium anticorrosion bottom frame. Bottom frame is fixed with captive (loss proof) screws. Satin finish high efficiency translucence (HET) polycarbonate diffuser is sealed with bottom frame and non-hygroscopic VHB gasket to ensure dust proofing, Bottom frame and diffuser, with gasket and pressure clamps, ensures dust proofing, Surface finish in epoxy polyester powder coating lends higher corrosion resistance & life long finish. Excellent heat dissipation through special design of high thermal conductivity FRPCB & housing. LED Driver prewired upto terminal block. Suitable for Class 10,000 & 100,000 cleanroom applications. Conforms to IS10322/ Part 5/ Sec. 1 : 1987. Approx. size 581mm x 581mm for each bed controlled with 5amp switches.

04. **Bed lights in patient Chamber** : 01 nos of Hospital bed LED head light with provision of Up-ward, Down-ward & night light. Made by Heavy duty steel sheet fabrication with powder coating off white finish. Fixing on wall via two key slots provided on the back of light. Wattage- 15watt/8watt. Colour temp- 3000K/4000K. control with 5-amp switches for each bed. All modular switch, modular plate, suitable GI box should be antibacterial.

05. **Lights for Peripheral areas** : 2' X 2' 36-watt recess mount Led Fitting for each bed controlled with 5amp switches.

06. **Power points for Peripheral areas** : There should be 6 pin 5/6 & 15/16 A modular socket outlet with 15/16 A modular switch and 3 pin 5/6 A modular socket outlet and 5/6 A modular switch in

corridors and other rooms as required. All modular switch, modular plate, suitable GI box should be antibacterial.

07. **Fans** : 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019), THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required should be installed in Peripheral areas.

08. **Earthing** : Maintenance free chemical earthing of 3 meter length 50 mm dia copper bonded earthing electrode with 50 kg EBFC . Earth pit digging by manually size of earth pit 3feet/2.5 ft X 10 ft depth and providing masonry enclosure with cover plate having locking arrangement complete as required. Electrode - 50MM Copper Cladded Earth 3 mtr length. The thickness of the copper coating will be 250 microns and uniform with tolerance level of 0.1 micron and 25 mm X 5 mm copper strip on surface or in recess are used to provide earthing to all equipment and the metal parts,

TECHNICAL SPECIFICATION

WIRING

1.0 GENERAL

Technical specifications in this section cover the Internal Wiring Installations comprising of Wiring for convenience socket outlet in surface/concealed conduit.

2.0 STANDARDS AND CODES.

Latest up-to-date Indian Standard (IS) and Code of practice will apply to the equipment and the work covered by the scope of this contract. In addition, the relevant clauses of the Indian Electricity Act 1910 and Indian Electricity Rules 1956 as amended UpToDate shall also apply. Wherever, appropriate Indian Standards are not available, relevant British and/or IEC Standard shall be applicable.

3.0 LT CABLES

3.1 GENERAL

LT Cables shall be supplied, inspected, laid, tested and commissioned in accordance with specifications, relevant Indian Standards Specifications, and cable manufacturer's instructions. The cable shall be delivered at site in original drums with manufacturer's name clearly written on the drums. The recommendations of the cable manufacturer with regard to jointing and sealing be strictly followed.

3.2 MATERIAL

The L.T. Cables shall be XLPE insulated FRLS aluminum conductor armored cable, PVC inner sheathed, overall PVC sheathed in conformity to latest technical specification and as per latest IS code.

3.3 LT CABLE LAYING

3.3.1. The cable shall be laid directly in cable tray clamped with 40mm x 3mm MS flat clamp, in HDPE pipe below 750 mm from ground level and in cable trench. The cable laying work will be done as per CPWD specification of electrical works.

3.3.2. Underground Cable Laying procedure

A trench of about 1.5 meters deep and 45 cm wide is to be dug as per required. Then the trench is to be covered with a 10 cm thick layer of fine sand. The cable is to be laid over the sand bed. The sand bed protects the cable from the moisture from the ground. Then the laid cable shall again be covered with a layer of sand of about 10 cm thick. When multiple cables are to be laid in the same trench, a horizontal or vertical spacing of about 30 cm is to be provided to reduce the effect of mutual heating. Spacing between the cables also ensures a fault occurring on one cable does not damage the adjacent cable. The trench is then to be covered with bricks and soil to protect the cable from mechanical injury.

3.4 INSPECTION.

All cables shall be inspected at site and checked for any damage during transit.

3.5 JOINTS IN CABLES

The Contractor shall take care to see that the cables received at site are apportioned to various locations in such a manner as to ensure maximum utilization and avoiding of cable joints. This apportioning shall be got approved from Engineer-In-Charge before the cables are cut to lengths.

4.0 TESTING OF CABLES

4.1 Prior to installation of cables, the following tests shall be carried out. Insulation test between phases, phase & neutral, phase & earth for each length of cable.

Before laying

After laying

After jointing

4.2 On completion of cable laying work, the following tests shall be conducted in the presence of the Engineer-in-Charge.

a) Insulation Resistance Test (Sectional and overall).

b) Continuity Resistance Test.

c) Earth Continuity Test.

4.3 All tests shall be carried out in accordance with relevant Indian Standard code of practice and Indian Electricity Rules. The contractor shall provide necessary instruments, equipment's and labour for conducting the above tests & shall bear all expenses of conducting such tests without any extra charge.

5. CONDUITS.

5.1. MS CONDUITS. Wiring shall be carried out in surface/concealed conduits. The MS conduits conform to Latest and shall be ISI embossed. The conduits shall be heavy gauge (minimum 2 mm wall Thickness) and the interiors of the conduits shall be free from all obstructions. All joints in conduits shall be tightening properly with socket. Damage conduits/fittings shall not be used. Cut ends of conduits shall not have sharp edges.

5.2. BENDS. As far as possible, the conduit system shall be so laid out that it shall obviate use of tees, elbows and sharp bends. No length of conduit shall have more than the equivalent of two quarter bends from inlet to outlet.

5.3 CONDUIT ACCESSORIES

5.3.1 STANDARD ACCESSORIES. The conduit wiring system shall be completed in all respects, including their accessories. Bends, couplers, Dip junction Boxes etc. shall be solid or inspection type as required, in surface type or works. The accessories shall conform in all respects to the relevant IS. Samples shall be got approved by Executive Engineer (Electrical) before use.

5.3.2. FABRICATED ACCESSORIES. Wherever required, outlet boxes of required sizes shall be fabricated from 1.6 mm thick MS sheets which shall be fabricated from minimum 3 mm thick sheets. The outlet boxes shall be of approved quality, finish and manufacture. Suitable means of fixing connectors etc., if required, shall be provided in the boxes. The boxes shall be protected from rust by zinc phosphate primer process. Boxes shall be finished with minimum 2 coats of enamel paint of approved colour. A screwed brass stud shall be provided in all boxes as earthing terminal.

6. WIRES. Wiring shall be carried out with FRLS insulated 660/1100-volt grade unsheathed single core wires with electrolytic annealed standard copper (unless otherwise stated) conductors conforming to latest IS Code. All wire rolls shall be ISI marked. All wires shall bear manufacturer's label and shall be brought to site in new and original packages. Manufacturer's certificate, certifying that wires brought to site are of their manufacture shall be furnished as required.

7. LAYING OF CONDUITS

Conduits shall be laid on surface/concealed on walls and ceilings as required.

Same rate shall apply for surface/concealed Conducting in this contract.

Stranded copper conductor insulated wire of size as per schedule of quantities shall be provided in entire conducting for loop earthing.

8. SURFACE/CONCEALED CONDUITING

Wherever so desired, conduit shall be laid in surface over finished concrete and/or plastered brickwork. Suitable GI/MS Hook of approved make and finish shall be fixed to the finished Structural

surface along the conduit route at intervals not exceeding 600 mm. Holes in concrete or brick work for fixing the saddles shall be made neatly by electric drills using masonry drill bits. Conduits shall be fixed on the saddles by means of good quality heavy duty MS clamps screwed to the saddles by counter sunk screws. Neat appearance and good workmanship of surface conduiting work is of particular importance. The entire conduit work shall be in absolute line and plumb. The MS conduit should be painted with primer initially and then with two coats of approved make colour before laying the conduit.

8.1 FIXING OF CONDUIT FITTINGS AND ACCESSORIES

For surface/concealed Conduiting work, the fittings and accessories shall be completely embedded on finished wall/ceiling surface in a workman like manner. Loop earthing wire shall be connected to a screwed earth stud inside outlet boxes to make an effective contact with the metal body.

8.2 CLEANING OF CONDUIT RUNS

The entire conduit system including outlets and boxes shall be thoroughly cleaned after completion of erection and before drawing in of cables.

8.3 PROTECTION AGAINST DAMPNESS.

All outlets in conduit system shall be properly drain and ventilated to minimize chances of condensation/sweating.

8.4 EXPANSION JOINTS.

When crossing through expansion joints in buildings, the conduit sections across the joint shall be through approved quality heavy duty metal flexible conduits of the same size as the rigid conduit. The expansion joint crossing shall be done as approved by Engineer-in-Charge.

8.5 LOOP EARTHING.

Loop earthing shall be provided by means of insulated stranded copper conductor wires of sizes as per Schedule of Quantity laid along with wiring inside conduits for all wiring outlets. Earthing terminals shall be provided inside all switch boxes, outlet boxes and draw boxes etc.

9. LAYING AND DRAWING OF WIRES.

9.1. BUNCHING OF WIRES

Wires carrying current shall be so bunched in conduits that the outgoing and return wires are drawn into the same conduit. Wires originating from two different phases shall not be run in the same conduit.

9.2 DRAWING OF WIRES.

The drawing of wires shall be done with due regard to the following precautions: No wire shall be drawn into any conduit, until all work of any nature, that may cause injury to wire is completed. Burrs in cut conduits shall be smoothened before erection of conduits. Care shall be taken in pulling the wires so that no damage occurs to the insulation of the wire. Approved type bushes shall be provided at conduit terminations. Before the wires are drawn into the conduits, conduits shall be thoroughly cleaned of moisture, dust, dirt or any other obstruction by forcing compressed air through the conduits if necessary. While drawing insulated wires into the conduits, care shall be taken to avoid scratches and kinks which cause breakage of conductors. There shall be no sharp bends. The Contractor shall, after wiring is completed, provide a blank metal/mica plate on all switch/outlet/junction boxes for security and to ensure that wires are not stolen till switches/ outlets etc. are fixed at no extra cost the contractor shall be responsible to ensure that wires and loop earthing conductors are not broken and stolen. In the event of the wire been partly/fully stolen, the contractor shall replace the entire wiring along with loop earthing at no extra cost. No joint of any nature whatsoever shall be permitted in wiring and loop earthing.

9.3 TERMINATION/JOINTING OF WIRES.

Sub-circuit wiring shall be carried out in looping system. Joints shall be made only at distribution board terminals, switches for socket outlets. No joints shall be made inside conduits or junction/draw/inspection boxes. Switches controlling socket outlets shall be connected in the phase wire of the final sub circuit only. Switches controlling socket outlets shall be connected in the neutral wire. Wiring conductors shall be continuous from outlet to outlet. Joints where unavoidable, due to any special reason shall be made by approved connectors. Specific prior permission from Engineer-in-Charge in writing shall be obtained before making such joint. Insulation shall be shaved off for a length of 15 mm at the end of wire like sharpening of a pencil and it shall not be removed by cutting it square or wringing. Strands of wires shall not be cut for connecting terminals. All strands of wires shall be twisted round at the end before connection. Conductors having nominal cross-sectional area

exceeding 1.5 Sq. mm shall always be provided with crimping sockets. Tinning of the strands shall be done wherever crimping sockets are not available as per instructions of the Executive Engineer (Electrical). All wiring shall be labelled with appropriate plastic ferrules for identification. At all bolted terminals, brass flat washer of large area and approved steel spring washers shall be used. Brass nuts and bolts shall be used for all connections. The pressure applied to tighten terminal screws shall be just adequate, neither too less. Switches controlling socket outlets shall be connected to the phase wire of circuits only. Only certified valid license holder wiremen shall be employed to do wiring/jointing work.

9.4 LOAD BALANCING.

The contractor shall plan the load balancing of circuits in 3 phase installation and get the same approved by the Engineer-in-Charge before commencement of the work.

9.5 COLOUR CODE OF CONDUCTORS.

Colour code shall be maintained for the entire wiring installation – red, yellow, blue for three phases, blank for neutral and green for earth.

10. PERFORMANCE.

Should the above tests not comply with the limits and requirements as above the contractor shall rectify the faults until the required results are obtained. The contractor shall be responsible for providing the necessary instruments and subsidiary earths for carrying out the tests. The above tests are to be carried out by the contractor without any extra charge.

11. MINIATURE CIRCUIT BREAKERS.

The MCB's shall be of the completely moulded design suitable for operation at 240/415 Volts 50 Hz system. The MCB's shall have a rupturing capacity of 10 KA at 0.5 pf. The MCB's shall have inverse time delayed thermal overload and instantaneous magnetic short circuit protection. The MCB time current characteristic shall coordinate with XLPE cable characteristic. Type test certificates from independent authorities shall be submitted before the execution of work.

Fire Alarm and Protection System:

1. Supply and laying of 2core x 1.5 sq. mm FRLS copper conductor multi-strand armoured cable for fire alarm system with necessary clamp and other materials. All wires should be laid from the liver transplant ICU to the Fire Control room with proper clamping.
2. **SITC of photo Electric/ Thermal Smoke detector** with back box and glands as required with a standard base.
3. **SITC of Photo Electric / Thermal Heat detector** (Rate of rise) with back box and glands as required with standard base.
4. SITC of response indicator for each heat detector
5. **SITC of 6 zone conventional Fire Alarm Panel** with battery back-up , alarm condition 30 minutes and 12 hours of standby mode. Dimensions 360X422X122.8 mm facia, Operating temperature 0 to 49'C. Powder coated, cold rolled Steel of 1.2mm thick.
6. SITC of Manual Call station Press to reset type with key and back box.
7. SITC of Hooter with required junction box and pipes.
8. SITC of K-80 factor 60 Deg. Standard response sprinkler (Side Wall) type with rosette cap
9. SITC of K-80 factor 60 Deg. Standard response sprinkler (Pendant) type with rosette cap
10. **Supply and fixing of CI body IS:210 FG 200 and double flange gear** simple operation type PN-16 butterfly valve conforming to IS:13095 with SS304 disc and rubber replaceable sheet of 80mm size compatible with bolts, nuts, washers and rubber as per the specification.
11. **SITC of MS "C" class pipe (80/65/40/25 mm)** with bends and other necessary fittings like; elbow, bends, nipples, socket, reducer, etc for sprinkler System conforming to IS-3589/IS-1239.
12. **Supply and installation of ABC-type powder** based Modular having a capacity of 6kg for the electrical room suitable for Class-A (IS-15683:2018 latest)
13. **Supply and installation of Carbon Dioxide** based fire extinguisher having capacity of 4.5 kg suitable for Class-B fire (IS-15683:2018 latest)
14. **Supply and installation of clean Agent type HFC-based fire extinguisher** having capacity of 4 kg suitable for Class-A fire (IS-15683:2018 latest)

Nurse call system, Telephone & Data System:

01. **SITC of IP phone** : "8 Line 2.4" TFT LCD (320x240 Pixel) display Colour display with back-lit .Hands-free Mode (Full duplex) HD Voice. 4 Context Specific Keys with 3 levels offering 12 freely programmable keys. 10 Dedicated function keys. 4 way navigator . Name Display support in addition to CLI. 3 Line Keys & up to 6 SIP Accounts. Phonebook with Intelligent search function (1000 entries). Call Logs (400 records). Speed Dial. Dial-pad lock (Selective/Full). Customized Ringtones. In-band and Out-Band DTMF(RFC2833). Comfort Noise Generation. Adaptive Jitter Buffer Management. Voice Activity Detection. Echo Cancellation. Web based management. Auto provisioning support. Support system log.
02. **SITC of IP based Nurse Call Station** : IP based Nurse Call system with a unique 4-colours LED feature with digital Screen. Accommodate bed capacity of up to 64 Bed in multiple of 8. Display up to 16 Nos. bed at any given point of time. Have electronic digital alphanumeric bed number up to 4 digits. With speaker for audible chime. Periodic reminder chime. Screenable emergency audio alert. Distinctive displays for Normal calls, Toilet calls and Code Blue Calls. Ssingle acknowledgement button for calls from all beds. Calls repeating and forwarding facility. Mains supply input: 230 V +1- 15 %, 50 Hz. System power supply: 12V DC or less. Plug-in type PCBs for easy service and replacement. RJ 45 used for all incoming line wires. Acrylic display used for easy view. Wall mountable unit.
03. **SITC of Bed Head Unit Module** : Flush mountable on wall or on a bed head panel. Red LED indicator reflect call status, yellow LED indicator reflect for acknowledgement, Green LED indicate ready status and Blue LED for emergency calls status or blue code. Single Reset button for Resetting Calls should be provided. Emergency button for Code Blue Calls should be provided. Power supply: 12V DC or less. 2mm thick or more aluminum panel with function marked on it. Remote wire is connected through Bed Unit.
04. **SITC of Handset Remote** : Made up of fluid protected PVC enclosure with antimicrobial material. Stain proof. PCB based set for easy use. Recessed buttons for call initiation. Flexible cable cord of 2-meter approx connected with Bed Head Unit.

The following LED's for indication: Green LED for ready mode, Red LED for call status and yellow LED for acknowledgement. Power supply: 12V DC or less.
05. **SITC of Door Unit Module** : Wall or surface mountable box provided with green LED for ready mode, yellow LED for acknowledge and blue for emergency or blue code systems. The LED based display should be visible from long distance in corridor also. It helps to support team to access or reach easily. 2mm thick or more aluminum panel with function marked on it. Power supply: 12V DC or less.
06. SITC of Computerized Nurse- Calling Response Monitoring(NCRM) System with Software
07. Supply and drawing of 3 x 1.5 sq.mm. of FRLS PVC insulated copper conductor, single core cable in the existing surface /recessed steel / PVC conduit as required.
08. Supply and fixing 6 pin 15/16 A socket outlet modular switch /socket on the existing modular plate & switch box including connection but excluding modular plate etc. as required.
09. Supplying and fixing of 25 MM of steel conduit along with accessories in surface /recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.

PROFORMA OF SCHEDULES

(Separate Performa for Works in case of Composite Tenders)
(Operative Schedules to be supplied separately to each intending tenderer)

SCHEDULE 'A'

Schedule of quantities: - (ENCLOSED)

SCHEDULE 'B'

Schedule of materials to be issued to the contractor.

Ser. No.	Description of item	Quantity	Rates in figures & words at which the material will be charged to the contractor	Place of issue
(1)	(2)	(3)	(4)	(5)
NIL.				

SCHEDULE 'C'

Tools and plants to be hired to the contractor

Ser. No.	Description	Hire charges per day	Place of Issue
(1)	(2)	(3)	(4)
DELETED			

SCHEDULE 'D'

Additional Condition and specifications: Enclosed.

SCHEDULE 'E'

(Reference to General conditions of Contract.)

Name of Work : Renovation of Transplant ICU at AIIMS, Bhubaneswar

Estimated Cost of Work	:	₹ 4,76,08,365/-
(a) Earnest Money	=	2% of Estimated cost
(b) Security Deposit	=	<u>2.5% of Billed value</u>
(c) Performance Guarantee	=	<u>05% of Contract Value</u>

SCHEDULE 'F'

GENERAL RULES & DIRECTIONS:

Officer Inviting Tender :- Executive Engineer (AC & R), AIIMS, Bhubaneswar

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined:-

in accordance with Clause -12.2 &12.3 = **See below**

Definitions

2 (v)	Engineer-in-Charge	Superintending Engineer, AIIMS, Bhubaneswar
2(viii)	Accepting Authority	Executive Director AIIMS, Bhubaneswar
2(x)	Percentage on cost of materials and labor to cover all over heads and profit	15%
2(xi)	Standard Schedule of Rates	Central Public Works Department Schedule of Rates - 2023 at Delhi with up to date correction slips
9(ii)	Standard AIIMS Contract Form	GCC for CPWD Works - 2020 as amended and up to and including correction slip

Clause – 1.

- (i) Time allowed for submission of Performance guarantee, Program Chart (Time & Progress) and applicable Labor Licenses, Registration with EPFO, ESIC & BOCW Welfare Board or proof of applying thereof from the date of issue of letter of acceptance : 15 Days
- (ii) Maximum allowable Extension with late fee @ 0.1% of Performance guarantee amount beyond the period provided in (i) above. : 01 to 15 days.

Clause – 2.

Authority for fixing compensation under Clause 2 : **Executive Director, AIIMS, Bhubaneswar**

Clause – 2A.

Whether Clause 2A shall be applicable : **No**

Clause – 5.

Time allowed for execution of work : **180 Days**

Number of days from the date of issue of Work Order for reckoning date of start : **07 Days.**

Authority to decide fair & reasonable extension of time for completion of work : **Superintending Engineer AIIMS, Bhubaneswar**

Clause – 6.

Computerized Measurement book : **Yes**

Clause – 7.

Payment on intermediate certificate to be regarded as Advances : **No**

Clause – 7A.

Whether clause 7A shall be applicable : **YES.**

Clause – 10B(ii).

Whether Clause 10B(ii) shall be applicable : **No.**

Clause – 10C.

: **Not applicable.**

Clause – 10CA.

: **Not applicable.**

Clause – 11.

Specification to be followed for Execution of work as on the date of opening of the tender. : **CPWD Specifications Volume I & II 2019 with up to date correction slips**

Clause – 12.

12.2 & 12.3 Limit for value of any item of any individual trade beyond which sub clauses (i) to (v) shall not be applicable : **50% (Fifty Percent)**

Clause – 16.

Competent Authority for deciding reduced rates : **Superintending Engineer
AIIMS, Bhubaneswar**

Clause – 25.

Settlement of dispute & Arbitration : **Executive Director, AIIMS,
Bhubaneswar**

Clause – 36(i).

Requirement of Technical Staff and rate of recovery in case of non-compliance shall be as per the following table :-

Value of Work	Ser. No	Minimum qualification of Technical Representative	Discipline	Designation (Principal Technical/ Technical representative)	Minimum Experience in years	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause 36(i)	
							(Figures)	(Words)
For Agreement amount up to Rs 150 Lakhs	(a)	Graduate Engineer OR Diploma Engineer	Civil	Principal Technical representative	02 years for Graduate Engineer/ 05 years for Diploma Engineer	1	Rs 15,000/- per month	Rs Fifteen Thousand only
For Agreement amount between Rs 150 Lakhs to Rs 500 Lakhs	(a)	Graduate Engineer	Civil	Principal Technical representative	5 years	1	Rs 25,000/- per month	Rs Twenty-Five Thousand only
	(b)	Graduate Engineer OR Diploma Engineer	Electrical/Mechanical	Technical representative	02 years for Graduate Engineer/ 05 years for Diploma Engineer	1	Rs 15,000/- per month	Rs Fifteen Thousand only

Schedule of Quantities

NIT No.: AIIMS/BBSR/ENGG/ACR/NIT/36

Name of Work: - Renovation of Transplant ICU at AIIMS, Bhubaneswar

Sl No.	Description Of Item	Unit	Quantity	Rate (In Rs.)	Amount (In Rs.)	Remark
1	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.	Cum	9.50	2060.20	19571.90	
2	Removing mortar from bricks and cleaning bricks including stacking within a lead of 50 m (stacks of cleaned bricks shall be measured):	Each	4300.00	6.70	28810.00	
3	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.	Cum	2.00	3551.25	7102.50	
4	Dismantling tile work in floors and roofs laid in cement mortar including stacking material within 50 metres lead. For thickness of tiles 10 mm to 25 mm	Sqm	100.00	73.40	7340.00	
5	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead.	SQM	600.00	54.65	32790.00	
6	Careful removal of granite from the wall area Removing cement mortar , Granite sifting to store including stacking of serviceable material and disposal of unserviceable material within Aiims Permisses all complete as directed by Engineer-in-charge	Sqmt	1000.00	350.00	350000.00	
7	Careful removal of vinyl flooring from floors /wall/roof Top area sifting to store including stacking of serviceable material and disposal of unserviceable material within Aiims Permisses all complete as directed by Engineer-in-charge	Sqm	350.00	52.00	18200.00	
8	Dismantling aluminium/ Gypsum partitions, doors, windows, fixed glazing and false ceiling including disposal of unserviceable material and	Sqm	500.00	56.35	28175.00	

9	Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead : Of area 3 sq. metres and below	Each	5.00	367.20	1836.00	
10	Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead :Of area beyond 3 sq. metres	Each	5.00	502.75	2513.75	
11	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	CUM	50.00	263.95	13197.50	
12	Disposal of moorum/building rubbish/ malba/ similar unserviceable, dismantled or waste material by mechanical transport including loading, transporting, unloading to approved municipal dumping ground for lead upto 10 km for all lifts, complete as per directions of Engineer-in-charge. Note - item to be applicable in urban areas having directions for restricted hours for movement/ plying of load carrying motor vehicle of 3.5 cum or more.	CUM	20.00	494.10	9882.00	
13	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor etc., up to floor five level, excluding the cost of centering, shuttering and finishing: 1:1½:3 (1 cement : 1½ coarse sand (zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources).	CUM	2.00	10357.55	20715.10	
14	Reinforced cement concrete work in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases above plinth level up to floor five level,	CUM	2.00	11505.50	23011.00	

15	Steel reinforcement for R.C.C. work ready to use "cut and bend" rebars of approved make from factory/ workshop to construction site including placing in position and binding all complete above plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.	KG	300.00	99.65	29895.00	
16	Half brick masonry with non modular fly ash bricks of class designation 10, conforming IS :12894, in super structure above plinth and upto floor V level. Cement mortar 1 : 3 (1 cement : 3 coarse sand)	Sqmt	200.00	1132.50	226500.00	
17	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in super structure above plinth level up to floor V level in : Cement mortar 1:4 (1 cement : 4 coarse sand)	CUM	10.00	8962.35	89623.50	
18	15 mm cement plaster on the rough side of single or half brick wall of mix : 1:4 (1 cement: 4 fine sand)	Sqmt	400.00	399.45	159780.00	
19	12 mm cement plaster of mix : 1:4 (1 cement: 4 fine sand)	Sqmt	100.00	347.05	34705.00	
20	Water proofing treatment of Vertical joints (of external side and internal side) between door frame, window & ventilator frames (on all four sides) of outer wall over the Zycosil/equivalent & Zycoprime/equivalent solution already applied (before the installation of door / window / ventilator frames in position) and fine finish with Grout RW/equivalent.	RMT	200.00	49.95	9990.00	

21	Providing and laying water proofing treatment on roofs of slabs by applying cement slurry mixed with water proofing cement compound consisting of applying:(a) after surface preparation, first layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm.(b) laying second layer of Fibre glass cloth when the first layer is still green. Overlaps of joints of fibre cloth should not be less than 10 cm.(c) third layer of 1.5 mm thickness consisting of slurry of cement @ 1.289 kg/sqm mixed with water proofing cement compound @ 0.670 kg/sqm and coarse sand @ 1.289 kg/sqm. This will be allowed to air cure for 4 hours followed by water curing for 48 hours. The entire treatment will be taken upto 30 cm on parapet wall and tucked into groove in parapet all around.(d) fourth and final layer of brick tiling with cement mortar (which will be paidfor separately. For the purpose of measurement the entire treated surface will be measured.	SQM	100.00	688.90	68890.00	
22	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	SQMT	500.00	1267.95	633975.00	
23	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.Glazed Vitrified tiles Matt/Antiskid finish of Size of Tile 600 x 600 mm	SQM	50.00	1464.85	73242.50	

24	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/sqm including grouting the joints with white cement and matching pigments etc., complete. Size of Tile 600x600 mm	SQMT	50.00	1553.45	77672.50	
25	Painting with ANTIBACTERIAL PAINT & PUTTY ON WALL & CEILING (Other External Area) Anti-Microbial Protection: These product hygiene coatings start the biocidal action as soon as the microorganism land on the surface, and prevents the growth of mould, bacteria and yeasts and tender technical specification & directed by Engineer-in-charge. Two or more coats on New work	Sqmt	1000.00	3020.80	3020800.00	
26	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer	Sqm	200.00	185.65	37130.00	
27	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade : One or more coats on old work	Sqm	50.00	102.80	5140.00	
28	Ceiling of other service area Providing and fixing horizontal level suspended Aluminium Metal false ceiling of specified materials of size 595x595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanized steel sections (galvanized @ 120 grams/ sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38 mm made from 0.30 mm thick (minimum) sheet, spaced at 1200 mm center to center and cross "T" of size 24x25 mm made of 0.30 mm thick (minimum) sheet, 1200 mm long spaced between main "T" at 600 mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 24x25 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 24x24x0.3 mm and laying false ceiling tiles of approved texture in the	Sqm	130.00	2754.00	358020.00	

grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x 1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm GI adjustable rods with galvanised butterfly level clips of size 85 x 30 x 0.8 mm spaced at 1200 mm center to center along main T, bottom exposed width of 24 mm of all T-sections shall be pre-painted with polyester paint, all complete for all heights as per specifications, drawings and as directed by Engineer-in-charge. 1. Aluminium Metal Tile (3105 Grade) Lay-in Tegular edge global white color Tiles size (Square Edge) 595mm x 595mm x 0.7mm 2. Weight is minimum 2.08 Kg/m² 3. Having Humidity Resistance 4. Light Reflectance minimum 75 % 5. Fire Performance CLASS 0/CLASS 1, (BS 476) Part 6 & 7 tiles of 120 gsm galvanized steel as per IS 277 (2003) suitable for architectural finishes in 0.5mm thickness as per in IS: 513 (1994) in Global white color with concealed suspension system having a bevelled edge of 3x3mm and height of 33mm on one side and 18mm on the other side. Tiles shall be flattened by precision leveller to minimize sag to less than 1/400mm. The tiles shall have double round pip of ϕ 2mm and ϕ 6mm for secure engagement and levelling respectively, along with swing down feature and special tabs to allow removal of tile to enable plenum access. The tile shall be electrostatically polyester powder coated using RoHS compliant powder having coating thickness ranging from 60-80 microns. The powder coating shall pass Salt Spray Test for 750 Hours as per ASTM B117, QUV –A Test for 1000 hours as per ASTM G-154 – (Cycle – 1) and Humidity test for 1000 hours as per DIN 50017. The powder coating shall have an adhesion of GT0 as per EN ISO 2409. The shade variation across batches shall be $\Delta E < 1$ using Excite/BYK Gardner instrument and gloss level of $25 \pm 5\%$ at 60° as per ASTM D523. The tile shall have a Light Reflectance of $\geq 63\%$ in accordance to ASTM 1477-98 and Fire Performance of class 0/1 as per BS 476 Part 6 & 7 in module size of 600x600mm. including					
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	factory painted after bending(Note-Payment will be made Only Nos after installation complete)					
29	Inside Patient Cubicle & Cubical front Corridor area - Providing and fixing GI Clip in Metal Ceiling System of 600x600 mm module which includes providing and fixing 'C' wall angle of size 20x30x20 mm made of 0.5 mm thick pre painted steel along the perimeter of the room with help of nylon sleeves and wooden screws at 300 mm center to centre, suspending the main C carrier of size 10x38x10 mm made of G.I steel 0.7 mm thick from the soffit with help of soffit cleat 37x27x25x1.6 mm, rawl plugs of size 38x12 mm and C carrier suspension clip and main carrier bracket at 1000 mm c/c. Inverted triangle shaped Spring Tee having height of 24 mm and width of 34 mm made of GI steel 0.45 mm thick is then fixed to the main C carrier and in direction perpendicular to it at 600 mm centers with help of suspension brackets. Wherever the main C carrier and spring T have to join, C carrier and spring T connectors have to be used. All sections to be galvanized @ 120 gms/sqm (both side inclusive), fixing with clip in tiles into spring T with : GI Metal Ceiling Clip in plain Beveled edge global white color tiles of size 600x600 and 0.5 mm thick with 25 mm height, made of G I sheet having galvanizing of 100 gms/sqm (both sides inclusive) and electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending.	Sqm	350.00	2221.70	777595.00	
30	Providing and laying self levelling compound 2-3 mm make below wooden flooring / vinyl flooring , to achieve perfect level as per the requirements of the Wooden / vinyl flooring vendor all other complete with approved brand and quality as per tender technical specification & the directions of Engineer-in charge.	Sqm	380.00	1003.00	381140.00	

31	Supply and Installation of vinyl Flooring : The floor finish should be laid with 2 -3mm antistatic seamless conductive PVC Roll on a semi-conductive adhesive base. The floor should be scratch resistant, fire resistant, chemical resistant, non-corrosive, slip resistant, smooth, anti fungi, antimicrobial impervious material conductive enough to dissipate static electricity but not conductive enough to endanger personnel from electric shock. The floor finish should pass over a concealed cove former and continue up the wall for 100mm. The floor should be provided flat to within a tolerance of ± 3mm over any 30 Sq.mtr areas. Copper grounding strip (0.05 thick, 50 mm width) should be laid flat on the floor in the conductive adhesive and connect to copper wire of grounding. The connection from copper grid should be brought out uniformly at places to form equi-potential grid. Continuous roll should be used and all the joints should be welded by heat fusion process to get seamless floor. The joints in the flooring should be sealed by using a PVC welding bar of matching colour and hot air gun for fusion of welding bar with flooring to provide a continuous sealed surface ,coving of above Vinyl flooring if required, confirming the European/US standards. The sheets should be highly durable with resistance to shock, scratch proof and indentation. Corners should be uniformly curved. The conductive material should be uniformly impregnated as grains. The floor should be inert to body fluids, chemicals, detergents and disinfectants and it should not be affected by temperature variation. Colour should be uniform, pleasant and matching with ambience.The vinyl Flooring should be made of a durable and uniform material that should be easy to clean and extremely hygienic. and as per technical Specification with all other fittings wherever required for vinyl Flooring all are including GST,Lay-out Drawing, Installation, Transport, Packing charges & all other complete with approved brand and quality as per tender technical specificaliton & the directions of Engineer-in charge. (Note-Payment will be made after the Complete fixation of vinyl Flooring & Measurement for payment as per the front elevation I.e only Length x Widht of the vinyl Flooring)	Sqm	380.00	3835.00	1457300.00	
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32	Supply and Installation of Cement Bonded prelaminated/Decorative particle board Wall Panel:(Inside Patient Room) Providing and fixing internal wall panels on Light gauge steel frame work with fixed on Cement Bonded prelaminated/Decorative particle board 12 mm(tolerance of ± 1.5 mm) (Termite, Fire & Moisture Resistance), as per IS:15786 : 2008 of standard sizes fixed with self-drilling / tapping screws / fasteners @ 60cm c/c of approved make, Screws shall be of counter sunk rib head of 1.60mm to 4 mm thick or 8 to 10 gauge of length varying from 25 to 45 mm.Proper tapping and jointing to be done using fiber mesh tape and epoxy and acrylic based jointing compound for seamless finish.(cost of frame work to be paid for separately)	Sqm	1800.00	1841.20	3314160.00	
33	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	KG	2,200.00	133.70	294140.00	
34	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc.,including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts , bolts and rubber gasket complete, i/c fixing of the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-incharge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	KG	250.00	772.40	193100.00	
35	Providing and fixing Anchor Fastner/bolt of 12mm dia and 100-150mm length with applying of chemical for anchoring including all complete as per direction of Engineer-in-charge.	Each	800.00	28.00	22400.00	
36	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. On steel work	sqmt	400.00	241.75	96700.00	
37	Providing and fixing of Corner guards as per design & specs corner guard superior wall mounted impact resistance from carts, language, beds and trolley stretchers and wheelchairs with	RMT	30.00	1600.00	48000.00	

38	Supply and Installation of Automatic Hermetically Sealed Sliding Door : Size 2100mmx 1500mm with 300x 3000mm view panel or Size 2100mm x 1000mm with 300mm x 300mm view panel. Automatic hermetically sealed sliding door with single leaf, for use in controlled bacteria environments, the door can be installed in conventional masonry walls or prefabricated self-loading systems. Telescopic linings on three sides, made in two parts, the frame profile and the sub frame profile, made of extruded aluminium elements shaped with wide radius curves. The frame profile is equipped internally with specific grooves designed to accommodate the friction gasket that joins it to the sub frame profile. In addition, the frame profile features a groove utilized for fixing purposes. The foregoing groove is closed by means of a cover gasket that is completely coplanar with the frame profile. The profiles can be 'finishing in anodized aluminum or painted with durable thermosetting epoxy powder finish. Housing profile to protect and cover the sliding mechanism made of extruded aluminium shaped with a wide radius curve without live edges or protrusions, to ensure ease of cleaning. The housing profile features a groove designed to receive the masking gasket that allows the complete closure of the lower side in correspondence with top profile of the door leaf. The ends of the housing profile are fitted with end caps having an identical radius of curvature to the profile and performing a closing function. Automation for sliding doors, complete with: Operating system transmission with antistatic drive belt reinforced with Kevlar beads; 230 V AC — 50 Hz power supply with short-circuit protection; High-performance low-wear DC motor; Status signaling and fault indicator LEDs. Electronic controller: Teach-in function with self-diagnostics and error recognition with evaluation of door leaf weight and sliding friction for adaptation of transmitted drive torque; ; Pause time for fully open door Independently adjustable opening and closing speeds. Anti-crushing function with closing movement reversal. and as per technical Specification with all other fittings wherever required for all are including GST, Lay-out Drawing , Installation, Transport, Packing charges & all other complete with approved brand and quality as per tender technical specification & the directions of Engineer-in charge. (Note- Payment will be made after the Complete SITC of Automatic Hermetically Sealed Sliding Door& Measurement for payment as per the Nos of the Door)	Nos	3.00	584100.00	1752300.00	
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39	Supply and Installation of Manual Hermetically Sealed Sliding Door : Size 2100mmx 1000mm with 300x 3000mm view panel or Size 2100mm x 1000mm with 300mm x 300mm view panel. Automatic hermetically sealed sliding door with single leaf, for use in controlled bacteria environments, the door can be installed in conventional masonry walls or prefabricated self-loading systems. Telescopic linings on three sides, made in two parts, the frame profile and the sub frame profile, made of extruded aluminium elements shaped with wide radius curves. The frame profile is equipped internally with specific grooves designed to accommodate the friction gasket that joins it to the sub frame profile. In addition, the frame profile features a groove utilized for fixing purposes. The foregoing groove is closed by means of a cover gasket that is completely coplanar with the frame profile. The profiles can be 'finishing in anodized aluminum or painted with durable thermosetting epoxy powder finish. Housing profile to protect and cover the sliding mechanism made of extruded aluminium shaped with a wide radius curve without live edges or protrusions, to ensure ease of cleaning. The housing profile features a groove designed to receive the masking gasket that allows the complete closure of the lower side in correspondence with top profile of the door leaf. The ends of the housing profile are fitted with end caps having an identical radius of curvature to the profile and performing a closing function.	Nos	11.00	395300.00	4348300.00	
40	Providing and fixing factory made single extruded WPC (Wood Polymer Composite) solid door/window/Ceoseatory windows & other Frames/Chowkhat comprising of virgin PVC polymer of K value 58-60 (Suspension Grade), calcium carbonate and natural fibers (wood powder/ rice husk/wheat husk) and non toxic additives (maximum toxicity index of 12 for 100 gms) fabricated with miter joints after applying PVC solvent cement and screwed with full body threaded star headed SS screws having minimum frame density of 750 kg/cum, screw withdrawal strength of 2200 N (Face) & 1100 N (Edge), minimum compressive strength of 58 N/mm², modulus of elasticity 900 N/ mm² and resistance to spread of flame of Class A category with property of being termite/borer proof,	RMT	25.00	1111.30	27782.50	

	water/moisture proof and fire retardant and fixed in position with M.S hold fast/lugs/SS dash fasteners of required dia and length complete as per direction of Engineer-In- Charge. (M.S hold fast/lugs or SS dash fasteners shall be paid for separately). Note: For WPC solid door/window frames, minus 5mm tolerance in dimensions i.e depth and width of profile shall be acceptable. Variation in profile dimensions on plus side shall be acceptable but no extra payment on this account shall be made. Frame size 65 x 100 mm					
41	Providing and fixing factory made single extruded WPC (Wood Polymer Composite) solid plain flush door shutter of required size comprising of virgin polymer of K value 58-60 (Suspension Grade), calcium carbonate and natural fibers (wood powder/ rice husk/wheat husk) and non toxic additives (maximum toxicity index of 12 for 100 gms) having minimum density of 650 kg/cum and screw withdrawal strength of 1800 N (Face) & 900 N (Edge), minimum compressive strength 50 N/mm², modulus of elasticity 850 N/mm² and resistance to spread of flame of Class A category with property of being termite/borer proof, water/moisture proof and fire retardant and fixing with stainless steel butt hinges of required size with necessary full body threaded star headed counter sunk S.S screws, all as per direction of Engineer-InCharge. (Note: stainless steel butt hinges and necessary S.S screws shall be paid separately) 30 mm thick	Sqmt	8.00	4346.70	34773.60	
42	Providing and fixing aluminum work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at\ junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P.brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) : For fixed portion Powder coated aluminum (minimum thickness of powder coating 50 micron)	KG	500.00	530.90	265450.00	

43	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at\ junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P.brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) : For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately) Powder coated aluminium (minimum thickness of powder coating 50 micron)	kg	200.00	634.45	126890.00	
44	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item) With float glass panes of 5 mm thickness (weight not less than 12.50 kg/ sqm)	SQM	100.00	1505.25	150525.00	
45	Providing and fixing Sliding Roller (best make of approved quality) for aluminium sliding door. all complete. as per the directions of Engineer-in-charge.	Pair (2nos)	10.00	580.00	5800.00	
46	Providing and fixing aluminium anodised handles with necessary screws etc. all complete. as per the directions of Engineer-in-charge. 150 mm	Nos	20.00	186.00	3720.00	
47	Providing and fixing aluminium sliding door bolts , anodised (anodic coating not less than grade AC 10 as per IS : 1868), transparent or dyed to required colour or shade, with nuts and screws etc. complete : 300x16 mm	Each	20.00	303.25	6065.00	

48	Providing and fixing aluminium tower bolts, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. all complete. as per the directions of Engineer-in-charge. :200x10 mm	Nos	10.00	99.70	997.00	
49	Providing and fixing aluminium hanging floor door stopper, anodised (anodic coating not less than grade AC 10 as per IS : 1868)transparent or dyed to required colour and shade, with necessary screws etc. all complete. as per the directions of Engineer-in-charge .Twin rubber stopper	Each	10.00	72.35	723.50	
50	Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564,embossed on the body, door and door width from 701 mm to 1200 mm), with double speed adjustment with necessary accessories and screws etc. complete.(Make Godrej C071 Aluminum Alloy Door Closer (Metallic Silver)	Nos	10.00	983.15	9831.50	
51	Providing and fixing bright finished 100 mm mortise lock & Key (Narrow Stile) of approved quality with necessary screws etc. all complete. as per the directions of Engineer-in-charge.	Each	10.00	739.00	7390.00	
52	Providing and fixing of Aluminium composite panel onl aluminium work 4 mm thickness (tolerance of $\pm 0.5\text{mm}$) with all necessary fittings & others as approved quality & make as per the directions of engineer-in-charge.	sqm	30.00	1908.00	57240.00	
53	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters. 35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	Sqm	8.00	3473.85	27790.80	

54	Design, Providing and fixing of 12 mm Toughened Glass partitions upto 3.50 M with proper machine edge finish in angle & fixed in the flooring with Aluminium 'U' channel & flushed with the ceiling. Glass panels to be formed as per approved modules 12 mm thick clear toughened glass with beveled edge polished and accurate designed holes to be installed by means of steel angle or spider fittings. The structural Glass walls system shall be complete with proper water tight silicon sealants /gaskets. M.S Brackets to support the structure system shall be hot dipped galvanized and slots in the brackets to be pre drilled not flame cut. All bolts, nuts, washers shall be 300 series non magnetic stainless steel and lock washers to be provided at all bolting connections. All structural silicone shall be of Dow Corning make. The Rates includes all material, Labour, Wastages, Cost of scaffolding, fixing & Finishing with frosted design film etc. Complete as approved all work executed as per the directions of engineer-in-charge.	Sqmt	90.00	5,135.00	462150.00	
55	Providing and fixing 12mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & double acting hydraulic floor spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer in charge (Door handle, lock and stopper etc. to be paid separately)	Sqm	15.00	5325.90	79888.50	

56	Providing and fixing factory made uPVC white colour casement/ Casement cum fixed glazed door comprising of uPVC multi-chambered frame, sash and mullion (where ever required) extruded profiles duly reinforced with 1.60 ± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), uPVC extruded glazing beads of appropriate dimension, EPDM gasket, zinc alloy (white powder coated) 3D hinges and one handle on each side of panels along with zinc plated mild steel multi point locking having transmission gear, cylinder with keeps and one side key, G.I fasteners 100 x 8 mm size for fixing frame to finished wall and necessary stainless steel screws, etc. Profile of frame & sash shall be mitred cut and fusion welded at all corners, mullion (if required) shall be also fusion welded including drilling of holes for fixing hardware's and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealent over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. (Single / double glass panes and silicon sealent shall be paid separately). Variation in profile dimension in higher side shall be accepted but no extra payment on this account shall be made. Note: For uPVC frame, sash and mullion extruded profiles minus 5% tolerance in dimension i.e. in depth & width of profile shall be acceptable. 9.147C.1 Casement door with 3D hinges made of (big series) frame 67 x 64 mm & sash 67 x 110 mm both having wall thickness of 2.3 ± 0.2 mm and single glazing bead / double glazing bead of appropriate dimension. (Area of door upto 2.00 sqm).	SQM	20.00	8106.30	162126.00	
57	<u>Internal Signage</u> Providing & fixing 5 mm thick Acrylic Sheet router cut into provided size with LG SAV with Eco-Solvent print and over lamination pasted on acrylic sheet. Fixing Procedure. (a) For Wall Mounted Signage. Plastic picture plate mount flush to architectural surface with non-visible screws as required for secure and stable mounting (b) For Hanging Signage. Stainless Steel chain/ 25mm D-clamp make perfect / equivalent brand attached with the sign. (c) For Projected Signage. Acrylic sheet fixed with Aluminium "C" channel with adjustable nuts , all complete with approved brand and quality as per the directions of Engineer-in charge . (Note- Payment will be made as per the Acrylic Sheet Signage fixing area - SQM)	Sqmt	20	870.00	17400.00	

	<u>Nurse station counter / TV Unit/full height storage of height /over head storage units</u>					
58	Providing and fixing 19mm thick BWP grade ply as per IS 710 of approved brand (one side decorative 1mm thick and other side balancing lamination 0.8mm thick) for boxes, shelves, racks, almirah, cupboard and drawer etc. with all other Accessories to be fitted: including providing and fixing on wall & floor with necessary nails,screws necessary Hardware & making necessary provision for all other Hardware fittings and wherever required making it good, all complete. as per the directions of Engineer-in-charge.	Sqmt	500.00	4005.30	2002650.00	
59	Providing and fixing cupboard shutter with 19mm thick one side decorative(1mm thick) and other side balancing lamination (0.8mm thick) BWP grade block board as per IS 710 of approved brand including 2mm thick PVC edge banding tape with hot glue by edge bending machine etc along with all other Accessories to be fitted: including providing and fixing on wall & floor with necessary Hardware & making necessary provision for all other Hardware fittings and wherever required making it good, all complete. as per the directions of Engineer-in-charge.	sqm	400.00	4042.10	1616840.00	
60	Providing and fixing 12 mm thick BWP grade marine ply as per IS 710 for boxes, shelves, racks, almirah, cupboard and drawer etc of required size category with property of being termite/borer proof, water/moisture proof and fire retardant and fixing with stainless steel screws, necessary nails etc . all as per direction of Engineer-In Charge.	sqm	50.00	1500.00	75000.00	
61	Providing and fixing 06 mm Flexible plywood BWP grade as per IS 710 for the curved surfaces With high bending property for curve Table ,boxes, shelves, racks, almirah, cupboard and drawer etc of required size category with property of being termite/borer proof, water/moisture proof and fire retardant and fixing with stainless steel screws, necessary nails etc . all as per direction of Engineer-In Charge.	Sqmt	50.00	850.00	42500.00	
62	Providing & Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt/ suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality. 1.0 mm thick	Sqm	850.00	897.30	762705.00	

63	Providing & Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt/ suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality. 0.8 mm thick	Sqm	850.00	450.00	382500.00	
64	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge.200 mm	Each	100.00	186.65	18665.00	
65	Providing and fixing stainless steel Stainless steel butt hinges 75x47x1.8 mm 0 degree Lshape hinges cupboard shutters with full threaded steel screws including making necessary recess in board and finished etc. complete as per direction of Engineer-in-charge.	Each	100.00	75.00	7500.00	
66	Providing and fixing Stainless Steel 304 Furniture Legs/Buffer Round/Square(100mm-200mm) of approved brand and quality as per direction of engineer in charge.	Each	30.00	330.00	9900.00	
67	Providing and fixing stainless steel soft closing heavy type telescopic drawer channels of approved make 500 mm long with screws etc. complete as per directions of Engineer- in-charge.	one set	15.00	885.10	13276.50	
68	Providing and fixing special quality bright finished brass cupboard or ward robe locks with four levers of approved quality including necessary screws etc. complete.50 mm	Each	10.00	356.75	3567.50	
69	Providing and fixing special quality bright finished brass cupboard or ward robe locks with four levers of approved quality including necessary screws etc. complete.65 mm	Each	70.00	362.40	25368.00	
70	Providing and fixing bright finished brass handles with screws etc. complete: 75 mm	Each	20.00	184.95	3699.00	
71	Providing and fixing 50 mm bright finished brass cup board or wardrobe knob of approved quality with necessary screws.	Each	50.00	74.25	3712.50	

72	Providing and fixing Granite stone slab of 18 mm thick(Any colour) gang saw cut, mirror polished, pre moulded and pre polished, machine cut for plywood top table ,cabinet ,kitchen platforms, vanity counters, window sills and similar locations of fixing with require adhesive, approved size, shade, colour and textures , joints treated with grouting compound, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding (double edges), polishing of edges & Wastage to give high gloss finish etc. complete at all levels complete the work as per direction of Engineer in Charge.	Sqm	10.00	3100.00	31000.00	
73	Supply and Installation of List Board (writing board) :Writing Board as operating list Board of Size of the unit should be not less than 940mm width x 640mm height x 50mm depth. It should be made of ceramic having magnetic properties and should be flushed to the wall of the operating Room.	Nos	10.00	14160.00	141600.00	
74	Engaging of Beldar or Coolie for sifting of Existing Materials, Dismantling of existing all Plumbing works/fixtures and stacking the removed material in proper way & others misc work as per site Requirements perform all the work as per the direction of EIC.	Nos	50.00	1047.00	52350.00	
75	Dismantling W.C. Pan of all sizes including disposal of dismantled materials i/c malba all complete as per directions of Engineer-in-Charge.	Nos	5.00	134.10	670.50	
76	Dismantling of flushing cistern of all types (C.I./PVC/Vitrious China) including stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead.	Each	6.00	112.05	672.30	
77	Supply and Installation of Stainless Steel 2 Bay Scrub Sink foot switch 2 bay scrub sink made out of 304 grade brushed finished stainless steel, 1600mm length, with electrical sensors, 1 Nos. Mixture valve, 2 Nos. Solenoid valves with manual mode (Hot water and cold foam type flow) extended operating lever, swinging spout and surgical purpose handle complete with all accessories as required and making good the walls wherever required.	No.	2.00	171000.00	342000.00	
78	Providing and fixing white vitreous china floor mounting / wall mounted pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including	No.	5.00	8006.60	40033.00	

	painting of fittings and brackets, cutting and making good the walls and floors wherever required : W.C. pan with ISI marked white solid plastic seat and lid					
79	Providing and fixing of vitreous china white Wall hung oval / circular Type wash basin with CP Brass Deck Mount Deck Mounted Bib cock, CP brass waste assembly, wall flanges and rubber adapters for waste connection complete including CI/MS brackets duly painted, nuts, washers, cutting and making good the walls floors wherever required. as per direction of Engineer-in-charge.	No.	3.00	7500.00	22500.00	
80	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require: White Vitreous China Wash basin size 630x450 mm with a pair of 15 mm C.P. brass pillar taps	No.	5.00	2,648.85	13244.25	
81	Providing and fixing CP Brass 2 in 1 system Bib Cock with wall Flange of approved quality & make as approved by Engineer in charge.	No.	5.00	1,315.00	6575.00	
82	Providing and fixing of C.P. brass Health Faucet of approved quality conforming to IS standards as per direction of Engineer-in-charge.	No.	5.00	1600.00	8000.00	
83	SITC of CP brass wall / counter mounted single lever sink mixer with C.P. wall flange, overhead swinging spout complete as required and making	No.	3.00	3300.00	9900.00	
84	Providing and fixing CP Brass Single lever telephonic wall mixer of quality & make as approved by Engineer in charge. (a) 15 mm	No.	3.00	6940.75	20822.25	
85	Providing and fixing C.P. brass bib cock of approved quality conforming to IS:8931 : 15 mm nominal bore	No.	3.00	506.80	1520.40	
86	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :150 mm diameter	No.	3.00	222.35	667.05	
87	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931 15 mm nominal bore complete as required.	No.	10.00	670.45	6704.50	
88	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931 15mm nominal bore	No.	6.00	574.30	3445.80	
89	Providing and fixing uplasticised PVC connection pipe with brass unions :45 cm length 15 mm nominal bore	No.	10.00	97.75	977.50	

90	Providing and fixing PTMT towel ring trapezoidal shape 215 mm long, 200 mm wide with minimum distances of 37 mm from wall face with concealed fittings arrangement of approved quality and colour, weighing not less than 88 gms.	No.	5.00	231.95	1159.75	
91	Providing and fixing toilet paper holder :C.P. brass with PVC rawl plug & C.P. brass screw complete as required.	Sqm	5.00	803.70	4018.50	
92	Providing and fixing CP Brass 32mm size Bottle Trap (with 75 mm clear water seal fitted with built-in Air Admittance valve of adequate capacity with factory supplied extension piece)of approved quality & make and as per the direction of Engineer-in-charge.	No.	6.00	1034.80	6208.80	
93	Providing and fixing PTMT liquid soap container 109 mm wide, 125 mm high and 112 mm distance from wall of standard shape with bracket of the same materials with snap fittings of approved quality and colour, weighing not less than 105	No.	5.00	168.35	841.75	
94	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	No.	10.00	1,607.95	16079.50	
95	Providing and fixing 600x120x5 mm glass shelf with edges round off, supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc., complete.	No.	5.00	1,083.50	5417.50	
96	Providing & fixing white vitreous china water less urinal of size 600 x 330 x 315mm having antibacterial /germs free ceramic surface, fixed with cartridge having debris catcher and hygiene	No.	2.00	18,088.45	36176.90	
97	Providing and fixing toilet paper holder : C.P. brass of approved quality conforming to IS standards as per direction of Engineer-in-charge.	No.	5.00	803.70	4018.50	
98	Providing and fixing PTMT grating of approved quality and colour. Circular type,125 mm nominal dia with 25 mm waste hole with Cockroach proof SS strainer of approved design including setting in floor with cement motor to match with floor finish as per architect requirement suitable for waster and FT.	No.	15.00	51.85	777.75	

99	Providing, Fixing solid state, no touch operating, fully hygienic hand drier of approved shade with single blower, with time delay, summer & winter control, music while drying, volume ON/OFF controls including providing necessary brackets, cable from drier to Plug, Plug top key and lock etc, complete as required.	No.	3.00	13,000.00	39000.00	
100	Providing & Fixing of long Hand Shower with 2.00m Flexible Hose Pipe & Wall Hooke & Other accessories of approved quality as per direction of Engineer-in-charge.	No.	3.00	1,900.00	5700.00	
101	Providing & Fixing of Stainless Steel Tube Coated with Anti-bacterial Nylon Grab bars Movable (Horizontally & Vertically) 35 mm fixing adjacent to WC Area with all other accessories of approved quality as per direction of Engineer-in-charge.	No.	2.00	5,900.00	11800.00	
102	Providing & Fixing of Straight Grab Bar 600mm long, 35mm dia of approved quality as per direction of Engineer-in-charge.	No.	2.00	3500.00	7000.00	
103	Providing & Fixing of L-Shape Grab bar, 750mm x 400mm, 35mm dia of approved quality as per direction of Engineer-in-charge.	No.	2.00	7500.00	15000.00	
104	Providing & Fixing of Swing Grab bar, 600mm long, 35mm dia of approved quality as per direction of Engineer-in-charge.	No.	2.00	10500.00	21000.00	
105	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. Concealed work, including cutting chases and making good the walls etc.					
	15 mm nominal dia Pipes	Meter	100.00	497.80	49780.00	
	20 mm nominal dia Pipes	Meter	200.00	537.60	107520.00	
	25 mm nominal dia Pipes	Meter	50.00	627.25	31362.50	
	32 mm nominal dia Pipes	Meter	50.00	739.30	36965.00	
106	Making connection of drain or sewer line with existing manhole including breaking into and making good the walls, floors with cement concrete 1:2:4 mix (1 cement : 2 coarse sand : 4	No.	10.00	810.45	8104.50	

	graded stone aggregate 20 mm nominal size) cement plastered on both sides with cement mortar 1:3 (1 cement : 3 coarse sand), finished with a floating coat of neat cement and making necessary channels for the drain etc. complete : For pipes 100 to 250 mm diameter					
107	Cutting holes up to 15x15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including finishing complete so as to make it leak proof.	No.	15.00	452.00	6780.00	
108	Providing and fixing of PVC Pipe Soil, Waste & Vent system conforming to IS : 13592 - Type B and PVC fittings (mould-ed as well as fabricated) like Floor Traps formed out of bore 'S' trap with 50 mm water seal, bends, tees, Y-tees, crosses, boss connections, access pieces, saddle pieces, clean outs, adaptor for connections to other materials, plugs, reducers, cowls, offsets and other specials complete as per direction of Engineer in Charge. Concealed work, including cutting chases and making good the walls etc.					
i	75 mm dia	RMT	300.00	350.00	105000.00	
ii	110 mm dia	RMT	500.00	650.00	325000.00	
iii	160 mm dia	RMT	100.00	1650.00	165000.00	
	HVAC Works					
109	Dismantling of existing all HVAC works/fixtures and stacking the removed material in proper way. (AHU, Pipeline, Ducting, Insulation, Diffuser &	Sqm	650	108	70200.00	
110	Chilled Water Piping, Valves & Other Accessories: Supplying, laying/ fixing, testing and commissioning of following nominal sizes of chilled water piping plumbing inside the building (with necessary clamps, vibration isolators and fittings but excluding valves, strainers, gauges etc.)					
i	65 mm dia MS Pipes (32mm thick insulation)	Metre	18	1794	32292.00	
ii	50 mm dia MS Pipes (32mm thick insulation)	Metre	30	1553	46590.00	
iii	40 mm dia MS Pipes (32mm thick insulation)	Metre	60	1257	75420.00	
111	Insulated valve : Supplying, fixing, testing and commissioning of following valves, strainers, gauges in the chilled/hot water plumbing duly					

	insulated to the same specifications as the connected piping and adequately supported as per specifications					
	BUTTERFLY VALVE (MANUAL) with C I body SS Disc, Nitrile Rubber Seal & O- Ring PN 16 pressure rating for chilled water water circulation as specified					
i	65 mm dia	Nos	2	4530	9060.00	
ii	50 mm dia	Nos	4	4129	16516.00	
iii	40 mm dia	Nos	4	3501	14004.00	
112	Y - STRAINER of Ductile CI Body flanged ends with stainless steel strainer for chilled circulation including insulation as specified.					
i	50 mm dia	No	1	5892	5892.00	
ii	40 mm dia	Nos	2	4399	8798.00	
113	AIR DISTRIBUTION (FOR AIR CONDITIONING AREAS) Supply, installation, balancing and commissioning of factory fabricated Aluminum rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports (GI Channel) etc. as per approved drawings and specifications of following sheet thickness complete as required. (It shall be as per SMACNA standards) Note:- UV coating & Mechanical protection shall be considered for exposed ducting insulation. GSS Duct with Soldering shall be provided for Critical area having 0.3 micron Filter in AHU.					
i	Thickness 0.8 MM Aluminum Ducting	Sqm.	450	1838.46	827307.00	
ii	Thickness 1 MM Aluminum Ducting	Sqm.	250	2205.97	551492.50	
iii	Thickness 1.25 MM Aluminum Ducting	Sqm.	100	2535	253500.00	
114	Supply, installation, balancing and commissioning of factory/site fabricated GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required. (It shall be as per SMACNA standards). GI sheet shall be 180GSM Coating.					

i	Thickness 0.63 mm Galvanized Sheet Steel Ducting	Sqm.	200	1058	211600.00	
ii	Thickness 0.80 mm Galvanized Sheet Steel Ducting	Sqm.	50	1229	61450.00	
115	Supply, installation, testing and commissioning of GI Volume Control Duct Damper complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as per specifications.	Sqm.	5	7046	35230.00	
116	Supply, installation and testing of Canvass connection for AHU ,CSU and TFA of Air-Conditioners.	Sqm.	6	1200	7200.00	
117	SUPPLY / RETURN AIR DIFFUSERS : Supplying, fixing testing commissioning of Supply air diffusers of powder coated aluminium with aluminium volume control dampers with anti smudge ring & removable core.	Sqm.	10	12184	121840.00	
118	Supplying, fixing testing commissioning of Return air diffusers of powder coated aluminium without volume control dampers with anti smudge ring & removable core.	Sqm.	10	8121	81210.00	
119	LAMINAR FLOW DIFFUSERS : Supply and Fixing of Laminar Air Flow (LAF) arrangement with a cabinet (housing) of size 610 mm x 610 x 350mm depth made out of prime quality aluminum with powder coated.	Nos	10	33635.9	336359.00	
120	SUPPLY / RETURN AIR GRILLES : Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers (18 Gauge) as per specifications.	Sqm.	4.5	9105	40972.50	
121	Supplying & fixing of powder coated extruded aluminium Return Air Grill with louvers but without volume control dampers complete as	Sqm.	4.5	5910	26595.00	
122	FIRE DAMPERS: Supplying, Fixing, testing and commissioning of Fire Dampers in supply air duct/main branch and return air path as and where required of required sizes i/c control wiring, the damper shall be motorized and spring return so as to close the damper in the event of power failure automatically and open the same in case of power being restored. The spring return action shall be inbuilt mechanism and not externally mounted. The damper shall also be closed in the event of fire signal complete as required and as per specifications.					
i	Fire damper	Sqm.	1.5	10659	15988.50	

ii	Actuator with control panel	Each	1	9948	9948.00	
123	INSULATION FOR OTHER AREA : Supplying and installation of duly laminated aluminum foil of mat finish closed cell Nitrile rubber (Class "O") insulation on existing duct after applying suitable adhesive for Nitrile rubber.					
i	Supply Air ducts within the Building - 25mm thick	Sqm.	510	968	493680.00	
ii	Return Air ducts within the Building - 19mm thick	Sqm.	510	754	384540.00	
124	Supplying, installation, testing & commissioning of acoustic lining of supply air duct and plenum with 25 mm thick resin bonded glass wool having density of 32 kg/m ³ , with 25mm X 25mm GI section of 1.25mm thick, at 600 mm centre to centre covered with Reinforced plastic tissue paper and 0.5 mm thick perforated aluminium sheet fixed to inside surface of ducts with cadmium plated nuts, bolts, stick pins, CPRX compound etc. complete as required and as per specifications.	Sqm.	40	708	28320.00	
125	AIR HANDLING UNIT- With VFD of CSU : Supply, Installation, testing and commissioning of factory fabricated double skin type Air Handling Units (BMS compatible) including by-pass starter as per specifications. HDU and TICU. Tonnage - 20TR, CFM- 7500 (Supply Side)- Floor Mounted (FM)	Nos.	1	718077	718077.00	
126	CEILING SUSPENDED UNIT (CSU) : Supply, Installation, testing and commissioning of factory fabricated double skin type Air Handling Units (BMS compatible) including by-pass starter as per specifications. CORRIDOR, Tonnage- 8 TR, CFM - 3600	No.	1	325000	325000.00	
127	TFA: FOR SUPPORT 100% FA FOR AHU : SITC of cabinet type Double skin (50 mm insulation with thermal profile) Ceiling Suspended TFA complete with pre-filter, 6 row chilled water cooling coil, backward/ forward curved fan, an IE3 efficiency class motor of suitable rating motor and drive package, canvas at unit outlet, Damper, spring type vibration isolators for the fan. rubber pad shall be provided between the unit frame and the concrete base frame. TFA 10TR/6000 CFM/35MMWC with filtration 10 micron down to 90% efficiency.	No.	1	321000	321000.00	

128	CENTRIFUGAL FAN SECTION : FOR GENERAL EXHAUST FROM ICU : Supply, installation, testing, commissioning of, double skin with 0.80 mm thick GI Sheet and 0.80 mm thick pre-painted GI sheet casing with Fan section consist of Centrifugal Fan , backward curved, DIDW, consisting of TEFC motor 415 +/- 10% volts, 3 Phase, 50 Hz, drive arrangement, common frame for fan and motor with metallic vibration isolator. Area -HDU/ TICU, CFM of each equipment - 6000	Nos	1	212000	212000.00	
129	Supply, installation, testing and commissioning of Cabinet type Inline exhaust fan complete with direct driven centrifugal fan following CFM capacity. Direct drive arrangement, heavy gauge sheet metal casing, rubber isolator mounts and other accessories, suitable for 220/240 volts, single phase, 50 Hz, AC supply etc. complete as					
i	400 CFM / 15 MM SP	No.s	1	11729	11728.60	
ii	200 CFM / 10 MM SP	No.s	1	10363	10362.95	
130	Magnehelic Pressure Gauge for Differential Pressure check in isolation room. Gauges are widely utilized for measuring pressure of fan and blowing machine. (Range 0 to 80 Kpa)	No.s	10	5074	50740.00	
131	Supply, installation, testing and commissioning of Air-Curtain with limit switch as Compatible for the 2400 mm door width. ISO9001:2015, CE certified air curtains in white colour suitable for wall / ceiling mounting having copper motor winding, Suitable for height up to 10 feet and should operate on 220v + - 10%, 50 Hz, single phase AC	No.s	2	68200	136400.00	
132	230V Fan Filter Unit with regulating control for clean room. Rust proof aluminium/Self contain stainless steel / galvanism / powder coated steel FF is compact in size and can be easily installed in Clean Room ceiling grids. Control for FFUs can be: 3 speed on device control, 3 speed remote control.	No.s	10	70000	700000.00	
133	HI WALL SPLIT UNITS- INVERTER DRIVEN COMPRESSOR : Supply, Installation, testing and commissioning of Air-cooled Hi-wall/Cassette split air conditioners each comprising an outdoor unit(s) consisting of inverter driven compressor, air cooled condenser, condenser fan along with Cooling thermostats etc. with outer casing and indoor fan coil unit consisting of centrifugal fans, fan motor, DX cooling coil, outer casing, filter, control and power panel with remote etc. (1.5 TR)	Nos.	4	42000	168000.00	

134	Supply, Installation Testing and Commissioning of PICBV (pressure independent valves (PN-16 rated) with modulating, 2- way control device.					
i	50 mm dia AHU Valves are Modulating Type	No.	1	37500	37500.00	
ii	40 mm dia AHU Valves are Modulating Type	Nos.	2	32730	65460.00	
135	Supply, installation, testing and commissioning of Cooling/Heating Thermostats for various Air Handling Units and Fan Coil Units as per specifications including all accessories, mountings, wiring between thermostat & unit, terminations etc.(BMS Compatibility to be	Nos.	3	4875	14625.00	
136	Supply, installation, testing and commissioning of Auto Purge Valves of brass construction with screwed ends duly insulated as per specifications and drawings complete in all respect(25/32 mm	Nos.	4	2230	8920.00	
137	Providing and fixing in position the industrial type pressure gauges with gun metal/brass valves complete as required.	Nos.	4	1196	4784.00	
138	Providing & fixing in position the mercury in glass industrial type thermometer complete as	Nos.	4	1043	4172.00	
139	Supply, Installation, Dressing with Bends, Tees and union etc. of PVC DRAIN PIPING with proper leak proof adhesive at joints duly insulated with 9 mm Nitrile rubber and BOPP tape of following size dia.					
i	25 mm Dia PVC drain Pipe.	Rmt	40	225	9000.00	
ii	32 mm Dia PVC drain Pipe.	Rmt	50	280	14000.00	
140	SITC of 40A TPN MCB with 7.5 HP Three phase Motor with VFD with bypass starter. Each of these compartment shall contain indicating lamp with ON/ OFF/ TRIP status of motors.	No.	1	73379.48	73379.48	
141	SITC of 40A TPN MCB with 5.5 HP Three phase Motor with VFD with bypass starter. Each of these compartment shall contain indicating lamp with ON/ OFF/ TRIP status of motors.	No.	1	73379.48	73379.48	
142	SITC of Acoustic Insulation of AHU Room wall with 50 mm thick, density 32 kg/cu. m resin bonded glass fibre insulation friction fixed in 610mm X 610mm frame work made of 25 x 50 x 50 x 50 x 25 mm made out of 0.6 mm thick GI sheet U shaped channel and covered with reinforced fibre glass tissue and finished with 0.80 mm perforated aluminium sheet etc. complete as	SQM	180	1229	221220	
	SITC of Underdeck insulation with 50 mm thick TF quality expanded polystyrene fixed to be slab with	SQM	415	770	319550	

143	Rawl plugs , covered with 22 SWG GI chicken wire mesh and held at all joints with washers and GI wire.					
	MGPS SYSTEM					
144	Imported Surface mounted Gas Outlets- Front loading complying to HTM- 02-01 / NFPA 99/ DIN standard with matching probe.	Nos.	20	2890	57800.00	
145	Oxygen flow meters with humidifier and suitable adapter (Imported) with 250cc humidifier bottle polysulphone type.	Nos.	10	5310	53100.00	
146	H.P. tubing having anti-static core as per ISO	Mtr.	20	106.20	2124.00	
147	VACUUM SYSTEM : Imported Surface mounted Gas Outlet Complying to HTM- 2022/ NFPA 99/ DIN standard with matching probe	Nos.	20	2890.00	57800.00	
148	Ward Vacuum Unit with Regulator, Polysulphone Collection Jar of 1000 ml with Bracket (Imported)).	Nos.	10	14940.00	149400.00	
149	Medical Air- 4 bar : Imported Surface mounted Gas Outlet Complying to HTM- 2022/ NFPA 99/ DIN standard with matching probe	Nos	20	4336.50	86730.00	
150	Copper Pipe Medical Grade BSI Kite Mark & CE certified Copper Pipes/Tubes as per detailed specifications :					
i	28 mm OD x 0.9 mm thick	Mtr.	60	1345.20	80712.00	
ii	22 mm OD x 0.9 mm thick	Mtr.	160	967.60	154816.00	
iii	15 mm OD x 0.9 mm thick	Mtr.	180	678.00	122040.00	
iv	12 mm OD x0.9 mm thick	Mtr.	55	513.30	28231.50	
151	Gas Alarm - Imported as per HTM 02-01/NFPA/DIN std : Supply and Installation of Medical Gas Area Alarm : Oxygen, Air & Vacuum (3 Gas Service)	Nos.	4	55170.00	220680.00	
152	Area Valve Service Units Imported as per HTM02-01/NFPA99/DIN std (With single gas service combination) : Supply and Installation of Area Service Valve Unit Single Service for Oxygen with NIST Connection / Single Service for Air 4 Bar with NIST Connection / Single Service for Vacuum with NIST Connection	Nos.	4	50570.00	202280.00	
153	Pressure Gauge (0 - 16")	Nos.	4	1486.80	5947.20	
154	Sensor for Alarms	Nos.	6	6490.00	38940.00	

155	SITC of Imported Ceiling Suspended Single Arm Medical Supply Unit (with Outlets - 2xO2 + 2xAir-4 + 2xVac + 10xElectrical Switch Sockets + RJ45 Socket) :	Nos.	10	565000.00	5650000.00	
156	Supply and Installation of TICU Control Panel :	Nos.	1	192045.00	192045.00	
157	Supply and Installation of Polysulphone collection jar of 1000ml with lid :	Nos.	20	3097.50	61950.00	
158	Supply and Installation of High-Pressure Antistatic Rubber Tube Colour Coded	Mtr.	80	125.00	10000.00	
159	Pre piped Degreased Lockable isolation valves: Supply and Installation of Line Isolation Valves :					
i	15mm	Nos.	8	3220.00	25760.00	
ii	22mm	Nos.	6	4600.00	27600.00	
iii	28mm	Nos.	2	5060.00	10120.00	
160	Supply and Installation of X-Ray View Panel :	Nos.	1	13000.00	13000.00	
	ELECTICAL WORKS					
161	Wiring for circuit/ submain wiring along with earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as					
(i)	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	500	1,451.00	725500.00	
(ii)	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	100	1,069.00	106900.00	
(iii)	4 X 6 sq. mm + 2 X 6 sq. mm earth wire	Metre	100	802.00	80200.00	
(iv)	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	Metre	3000	355.00	1065000.00	
(v)	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	1000	292.00	292000.00	
(vi)	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Metre	100	247.00	24700.00	
162	Wiring for circuit/ submain of 4 sq mm 3 core FRLS PVC insulated copper flexible cable in surface/ recessed medium class PVC conduit as required.	Metre	1200	191.00	229200.00	
163	Wiring for circuit/ submain of 4 sq mm 4 core FRLS PVC insulated copper flexible cable in surface/ recessed medium class PVC conduit as required.	Metre	200	250.00	50000.00	
164	Supply & laying of 95 sq mm 3.5 core PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade	Metre	150	821.00	123150.00	

165	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required (Group C). All modular switch, modular plate, suitable GI box should be	Point	70	2086.00	146020.00	
166	Wiring for group controlled (looped) light point/fan point/exhaust fan point/ call bell point (without independent switch etc.) with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed PVC conduit, and earthing the point with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable etc. as required. (Group C)	Point	40	912.00	36480.00	
167	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 A modular socket outlet and 5/6 A modular switch, connections etc. as required. All modular switch, socket, modular plate, suitable GI box should be antibacterial.	Each	30	807.00	24210.00	
168	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 A modular socket outlet and 15/16 A modular switch, connections etc. as required. All modular switch, sockets, modular plate, suitable GI box should be antibacterial.	Each	150	937.00	140550.00	
169	Supplying and fixing 5/6 A antibacterial modular switch with modular plate, & switch box including connections etc. as required.	Each	20	200.00	4000.00	
170	Supplying and fixing 32 A, 240 V, SPN Industrial type socket outlet, with 2 pole and earth, metal enclosed plug top along with 32 A "C" curve, DP, MCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required. it should be antibacterial.	Each	10	2324.00	23240.00	
171	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.					

i	Single pole	Each	140	272.00	38080.00	
ii	Triple pole and neutral	Each	12	1306.00	15672.00	
172	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note : Vertical type MCB TPDB is normally used where 3 phase outlets are required.) 8 way (4 + 24), Double door.	Each	4	10808.00	43232.00	
173	"Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)". 6 way (4 + 18), Double door.	Each	2	5289.00	10578.00	
174	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray (Galvanization thickness not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.					
(i)	100 mm width X 50 mm depth X 1.6 mm thickness	Metre	200	711	142200	
(ii)	300 mm width X 50 mm depth X 1.6 mm thickness	Metre	150	1024	153600	
(iii)	375 mm width X 50 mm depth X 2.0 mm thickness	Metre	50	1290	64500	
174	SITC of LT panel with structure base Feeder Details: - Incomer: - 63-amp, 36 KA, 415 Volt. 4P MCCB with TM Release, over current, short circuit protection – 1no. MAKE :- L&T.LED Indicator (RYB)-1set.63 Amp spreader link-1set, 3-PH ammeter & Voltmeter with CT, LED Indicator (RYB)-1set.BUS BAR: - 25X3 mm Aluminum bus bar.Outgoing: - A. 32-amp, 36 KA, 415 Volt, 10 KA "C" curve, TPN miniature circuit breaker-06 nos. C.R Sheet-1.6 mm, Body Type- Powder coated semen's Grey.	Each	1	57206	57206	

175	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required. 3½ X 95 sq. mm (45mm)	Each	2	625	1250	
176	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B,. with complete accessories as required.	Each	12	2903	34836	
177	Supply and installation of 10 mm dia Anchor fastener	Each	12	24	288	
178	Supply of 1.2 mtr ceiling fan down rod	Each	12	119	1428	
179	Supply and fixing of Hospital bed LED head light with provision of Up-ward, Down-ward & night light complete as per specification and direction of EIC.	Each	10	16208	162080	
180	Supply and Installation of Peripheral light clean room IP 65 42 WATT - Luminaire with illumination control arrangement consists of precisely manufactured, CRCA powder coated Housing, aluminium anticorrosion bottom frame. Bottom frame is fixed with captive (loss proof) screws. Satin finish high efficiency translucence (HET) polycarbonate diffuser is sealed with bottom frame and non-hygroscopic VHB gasket to ensure dust proofing. Bottom frame and diffuser, with gasket and pressure clamps, ensures dust proofing. Surface finish in epoxy polyester powder coating lends higher corrosion resistance & life long finish. Excellent heat dissipation through special design of high thermal conductivity FRPCB & housing. LED Driver prewired upto terminal block. Suitable for Class 10,000 & 100,000 cleanroom applications. Conforms to IS10322/ Part 5/ Sec. 1 : 1987. Approx. size 581mm x 581mm	Each	20	58249	1164980	
181	Supply and installation of 2' X 2' 36 watt recess mount Led Fitting complete as per specification and direction of EIC.	Each	45	2205	99225	
182	Supply and installation of 15 watt recess mount Round Led Fitting complete as per specification and direction of EIC.	Each	70	894	62580	
183	Supply & fixing of Mirror Cool White LED Light complete as per specification and direction of EIC.	Each	4	191	764	

184	SITC of Maintenance free chemical earthing of 3 meter length 50 mm dia copper bonded earthing electrode with 50 kg EBFC. Earth pit digging by manually size of earth pit 3feet/2.5 ft X 10 ft depth and providing masonry enclosure with cover plate having locking arrangement complete as required. Electrode - 50MM Copper Cladded Earth 3 mtr length. The thickness of the copper coating will be 250 microns and uniform with tolerance level of 0.1 micron.	Each	4	21452	85808	
185	Supplying and laying 25 mm X 5 mm copper strip at 0.50 meter below ground as strip earth electrode, including connection/terminating with nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of brass nut bolt & spring washer spaced at 50mm)	Metre	30	1034	31020	
186	Providing and fixing (Bolting/ Welding/Breezing) 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.	Metre	200	1236	247200	
187	Dismantling of existing all electrical wirings, fixtures and stacking the removed materials in proper way and handing over it to the dept.	lot	1	35754	35754	
188	Supply and laying of 2 CoreX1.5 Sq.mm FRLS copper conductor multi strand armoured cable for Fire Alarm System.	MTR	2000	255	510000	
	FIRE FIGHTING SYSTEM					
189	SITC of photo Electric/ Thermal Smoke detector with back box and glands as required with a standard base.	EACH	25	2302	57550	
190	SITC of Photo Electric / Thermal Heat detector (Rate of rise) with back box and glands as required with standard base.	EACH	20	2476	49520	
191	SITC of response indicator for each heat detector	EACH	20	187	3740	
192	SITC of 6 zone conventional Fire Alarm Panel with battery back-up , alarm condition 30 minutes and 12 hours of standby mode. Dimensions 360X422X122.8 mm facia, Operating temperature 0 to 49'C . Powder coated, cold rolled Steel of	EACH	1	10875	10875	
193	SITC of Manual Call station Press to reset type with key and back box.	EACH	2	3057	6114	
194	SITC of Hooter with required junction box and pipes.	EACH	2	6172	12344	
195	SITC of K-80 factor 60 Deg. Standard response sprinkler (Side Wall) type with rosette cap	EACH	15	369	5535	

196	SITC of K-80 factor 60 Deg. Standard response sprinkler (Pendant) type with rosette cap	EACH	30	291	8730	
197	Supply and fixing of CI body IS:210 FG 200 and double flange gear simple operation type PN-16 butterfly valve conforming to IS:13095 with SS304 disc and rubber replaceable sheet of 80mm size compatible with bolts, nuts, washers and rubber as per the specification.	EACH	1	2411	2411	
198	SITC of MS "C" class pipe with bends and other necessary fittings like; elbow, bends, nipples, socket, reducer, etc for sprinkler System conforming to IS-3589/IS-1239.					
(i)	80mm	MTR	24	1126	27024	
(ii)	65mm	MTR	30	1010	30300	
(iii)	40mm	MTR	48	626	30048	
(iv)	25mm	MTR	72	369	26568	
199	Supply and installation of ABC-type powder based Modular having a capacity of 6kg for the electrical room suitable for Class-A (IS-15683:2018 latest)	EACH	2	5950	11900	
200	Supply and installation of Carbon Dioxide based fire extinguisher having capacity of 4.5 kg suitable for Class-B fire (IS-15683:2018 latest)	EACH	2	7991	15982	
201	Supply and installation of clean Agent type HFC-based fire extinguisher having capacity of 4 kg suitable for Class-A fire (IS-15683:2018 latest)	EACH	2	13594	27188	
Nurse call system, Telephone & Data System						
202	SITC of IP phone - "8 Line 2.4" TFT LCD (320x240 Pixel) display Colour display with back-lit .Hands-free Mode (Full duplex) HD Voice. 4 Context Specific Keys with 3 levels offering 12 freely programmable keys. 10 Dedicated function keys. 4 way navigator . Name Display support in addition to CLI. 3 Line Keys & up to 6 SIP Accounts. Phonebook with Intelligent search function (1000 entries). Call Logs (400 records). Speed Dial. Dialpad lock (Selective/Full). Customized Ringtones. In-band and Out-Band DTMF(RFC2833). Comfort Noise Generation. Adaptive Jitter Buffer Management. Voice Activity Detection. Echo Cancellation. Web based management. Auto provisioning support. Support system log.	Each	5		7151	35755
203	SITC of IP based Nurse Call Station- IP based Nurse Call system with a unique 4-colours LED feature with digital Screen. Accommodate bed capacity of up to 64 Bed in multiple of 8. Display up to 16 Nos. bed at any given point of time. Have electronic digital alphanumeric bed	Each	2		79255	158510

	number up to 4 digits. With speaker for audible chime. Periodic reminder chime. Screenable emergency audio alert. Distinctive displays for Normal calls, Toilet calls and Code Blue Calls. Single acknowledgement button for calls from all beds. Calls repeating and forwarding facility. Mains supply input: 230 V +1- 15 %, 50 Hz. System power supply: 12V DC or less. Plug-in type PCBs for easy service and replacement. RJ 45 used for all incoming line wires. Acrylic display used for easy view. Wall mountable unit.					
204	SITC of Bed Head Unit Module- Flush mountable on wall or on a bed head panel. Red LED indicator reflect call status, yellow LED indicator reflect for acknowledgement, Green LED indicate ready status and Blue LED for emergency calls status or blue code. Single Reset button for Resetting Calls should be provided. Emergency button for Code Blue Calls should be provided. Power supply: 12V DC or less. 2mm thick or more aluminum panel with function marked on it. Remote wire is connected through Bed Unit.	Each	12		5231	62772
205	SITC of Handset Remote- Made up of fluid protected PVC enclosure with antimicrobial material. Stain proof. PCB based set for easy use. Recessed buttons for call initiation. Flexible cable cord of 2-meter approx connected with Bed Head Unit. The following LED's for indication: Green LED for ready mode, Red LED for call status and yellow LED for acknowledgement. Power supply: 12V DC or less.	Each	12		2457	29484
206	SITC of Door Unit Module- Wall or surface mountable box provided with green LED for ready mode, yellow LED for acknowledge and blue for emergency or blue code systems. The LED based display should be visible from long distance in corridor also. It helps to support team to access or reach easily. 2mm thick or more aluminum panel with function marked on it. Power supply: 12V DC or less.	Each	12		4755	57060
207	SITC of Computerized Nurse- Calling Response Monitoring(NCRM) System with Software	Each	1		106994	106994

208	Supply and drawing of 3 x 1.5 sq.mm. of FRLS PVC insulated copper conductor, single core cable in the existing surface /recessed stell / PVC conduit as required	Mtrs	50	95	4750	
209	Supply and fixing 6 pin 15/16 A socket outlet modular switch /socket on the existing modular plate & switch box includiing connection but excluding modular plate etc. as required	Each	1	137	137	
210	Supplying and fixing of 25 MM of steel conduit along with accessories in surface /recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.	Mtrs	300	256	76800	
	TOTAL AMOUNT				₹ 4,76,08,365/-	

PERFORMA FOR QUOTING RATES

Name of Work: - Renovation of Transplant ICU at AIIMS, Bhubaneswar					
E NIT No- <u>AIIMS/BBSR/ENGG/ACR/NIT/36</u>					
ESTIMATE COST PUT TO TENDER- ₹ 4,76,08,365/-					
NAME OF CONTRACTOR-					
Sr. No.	Name of component	Estimated cost (Rs.)	Percentage above/ below the Total Estimated Cost	% in figures	Total Cost (Rs.)
1.	Renovation of Transplant ICU at AIIMS, Bhubaneswar	₹ 4,76,08,365/-			
Contractor's Quoted Rate in words					

NOTE: -

1. LMR = To be read as Local Market Rate.
2. The Bidder must submit Financial Bid in On-Line Mode.
3. I/We have gone through the terms & conditions as stipulated in the tender and confirm to accept and abide the same before quoting the rate.
4. No other charges would be payable by the Institute
5. Quantity mentioned above is tentative, it may increase or decrease as per site requirement.
6. Contractor has to bring samples as per above preferred brands only and Engineer-In-Charge shall approve one sample out of the samples brought by the contractor. The contractor has to use material of that approved sample only. No claim in this regard shall be entertained.
7. In case of non-availability of material of approved make, prior approval from Engineer-In-Charge shall be obtained for other make.
8. The rates quoted should be inclusive of GST as applicable.

I, the contractor certify that I am filling this template after understanding all the items of Schedule of Quantity of e NIT Page No- **58 to 89**.

Name: _____
Business Address: _____
Date : _____
Place: Bhubaneswar

Signature of the Bidder: -

Seal of the Bidder _____

DECLARATIONS
(TO BE GIVEN BY THE TENDERERS)

It is to certify that :-

(a) I /We have gone through GCC of CPWD up to latest correction as available on website of CPWD/ <https://eprocure.gov.in/eprocure/app> / www.aiimsbhubaneswar.nic.in or in the office of Superintendent Engineer and I/We agree with the terms and conditions of it and understood that it will form part of the agreement.

(b) "I,S/o Shri resident of hereby certify that none of my Relative(s) is/are employed in AIIMS Civil Zone, Odisha. In case at any stage, it is found that the information given by me is false/incorrect, AIIMS shall have the absolute right to take any action as deemed fit without any prior intimation to me".

(c) "I/We undertake and confirm that eligible similar Work(s) has/have not been got executed through another contractor on back to back basis. Further, it is stated that, if such a violation comes to the notice of Department, than I/We shall be debarred for bidding in AIIMS in future forever. Also, if such a violation comes to the notice of AIIMS, Bhubaneswar before date of start of work, the Executive Engineer (AC & R) shall be free to forfeit the entire amount of Performance Guarantee".

Date : _____

Signature of the Tenderer

NOTE : - (To be certified by all the partners in case of partnership firms, by all the directors in case of companies).

FORM FOR DETAILED INFORMATION BY BIDDER

Name of Firm/Contractor/Supplier	:
Complete Address and Telephone Number	:
Name of Proprietor/Partner/Managing Director/Director	:
Phone Number	:
Mobile Number	:
e-Mail ID	:
Name and address of service center nearby Bhubaneswar	:
Whether the firm is a registered Firm (Yes/No. Attach Copy of Certificate)	:
PAN Number. (enclose the attested copy of PAN Card)	:
GST Number (enclose the copy of GST Certificate)	:
Whether the firm has Uploaded the Bank Draft/Pay Order/ Banker's Cheque of Earnest Money Deposit (EMD).	:
EPF No. (Enclose the attested copy of EPF Registration Certificate)	:
ESI Code.	:
Any other information, if necessary.	:

(Authorized Signature of the Bidder with Seal)

FORM FOR DETAILS OF ALL WORKS OF SIMILAR CLASS COMPLETED DURING THE LAST 07 (SEVEN) YEAR

Ser. No.	Name of Work/ Project	Location	Owner or Sponsoring Organization	Cost of Work in Lakhs	Date of Commencement as per Contract	Stipulated date of Completion	Actual date of Completion	Litigation/ Arbitration pending/ In progress with details	Remarks
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(j)	(k)
1.									
2.									
3.									
4.									
5.									
6.									
7.									

(Authorized Signature of the Bidder with Seal)

AFFIDAVIT**(To be Submitted on Notarized Non Judicial Stamp Paper of Rs 10/- or above)****e-Tender for the Work of “Renovation of Transplant ICU at AIIMS, Bhubaneswar”****To be submitted online by :**

- (a) Time and date of online Opening of Technical Bids. : - / /2024 at 1600 Hours.
- (b) Time and date of opening of Online Financial Bids. : To be intimated later through website.

T E N D E R

I/We have read and examined the notice inviting tender, schedule along with Appendices 'A' to 'F' as per Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, Clauses of Contract, Special Conditions, Schedule of Rate & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

If I/We, fail to furnish the prescribed Performance Guarantee within prescribed period, I/We agree that the said Executive Director, AIIMS, Bhubaneswar or his successors, in office shall without prejudice to any other right or remedy, be at liberty to debar me for 01 (One) year. Further, if I/We fail to commence work as specified, I/We agree that Executive Director, AIIMS, Bhubaneswar or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to suspend me for one year. The said performance guarantee shall be a guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in the tender form. Further, I/We agree that in case of non-submission of Performance Guarantee as aforesaid, I /We shall be debarred for participation for one year in the tendering process of the work and EMD will be forfeited.

I/We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of AIIMS, Bhubaneswar, then I/We shall be debarred for tendering in AIIMS, Bhubaneswar in future forever. Also, if such a violation comes to the notice of AIIMS, Bhubaneswar before date of start of work, the Administrative Officer shall be free to forfeit the entire amount of Performance Guarantee.

I/We hereby declare that I/We shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived there from to any person other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Dated: * _____

Signature of Contractor
with full Postal Address

Witness: *

Address: *

Occupation: *

(* To be filled in by the Contractor.)

AFFIDAVIT

(To be Submitted on Notarized Non Judicial Stamp Paper of Rs 10/- or above)

I/We hereby certify that, the above firm has not been ever blacklisted by any Central/State Government/Public Undertaking/Institute on any account.

I/We also certify that, Firm will supply the item(s) as per the specification given by Institution and also abide all the Terms & Conditions stipulated in Tender.

I/We also certify that, the information given in Bid is true and correct in all aspects and in any case at a later date, it is found that any details provided are false and incorrect, any contract given to the concerned firm or participation may be summarily terminated at any state, the firm will be blacklisted and Institute may imposed any action as per e-NIT Rules.

Business Address :-

Name :

(Signature of Bidder with Firm's Seal)

Place : _____

Dated : _____

FORM OF PERFORMANCE SECURITY (GUARANTEE)

1. In consideration of the Executive Director, AIIMS, Bhubaneswar (hereinafter called "the Government") having offered to accept the terms and conditions of the proposed agreement between _____ and _____ (hereinafter called "the said Contractor(s)") for the work _____ (hereinafter called "the said agreement") having agreed to production of a irrevocable Bank Guarantee for Rs. _____ (Rupees _____ only) as a security/ guarantee from the contractor(s) for compliance of his obligation in accordance with the terms and conditions in the said agreement.

I/We _____ (hereinafter referred to as Bank) hereby (Indicate the name of the Bank) undertake to pay to the Government an amount not exceeding Rs. _____ (Rupees _____ only) on demand by Government.

2. I/We _____ do hereby undertake to pay the (Indicate the name of the Bank) amount due and payable under this Guarantee without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor (s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____ (Rupees _____ only).

3. I/We the said bank undertake to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor (s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.

4. The payment so made by us under this bond shall be valid discharge of our liability for payment there under and the contractor (s) shall have no claim against us for making such payment.

5. I/ We _____ further agree that the guarantee herein contained (Indicate the name of Bank) shall remain in full force and effect during the period that would be taken for the performance of the said agreement and it shall continue to be enforceable till all the dues of the Government under or by virtue of the said agreement have been fully paid, and its claims satisfied or discharged, or till Engineer-in-charge on behalf of the Government, certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said contractor (s) accordingly discharges this guarantee.

6. I/We _____ further agree with the Government that the (Indicate the name of Bank) Government shall have the fullest liberty without our consent, and without affecting in any manner our obligations hereunder, to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor (s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor (s) and to forebear or enforce any of the terms and conditions relating to the said agreement & we shall not be relieved from our liability by reasons of any such variation or extension being granted to the said contractor (s) or for any forbearance, act of omission on that part of the Government or any indulgence by the Government to the said contractor (s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

7. The guarantee will not be discharged due to the change in the constitution of the Bank or the contractor (s).

8. We _____ lastly undertake not to revoke this (Indicate the name of Bank) guarantee except with the previous consent of the Government in writing.

9. This Guarantee shall valid up to _____ unless extended on demand by Government, notwithstanding anything mentioned above, our liability against this Guarantee is restricted to Rs. _____ (Rupees _____ only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this Guarantee all our liabilities under the Guarantee shall stand discharged.

Dated the _____ day of _____ for _____

(Indicate the name of Bank)

AGREEMENT (Specimen)**(To be Submitted on Non Judicial Stamp Paper of Rs 100/- or above)**

This Agreement is made at **Bhubaneswar** on this (day) of (Month) 20____.

BETWEEN

Executive Director, AIIMS, Bhubaneswar represented through Executive Engineer (AC & R), AIIMS, BHUBANESWAR (hereinafter referred as the) (Address) "**Principal/Owner**", which expression shall unless repugnant to the meaning or context hereof include its success or sand permitted as signs)

AND

..... (Name and Address of the Individual/firm/Company) through (Hereinafter referred to as the (Details of duly authorized signatory) "**Bidder/Contractor**" and which expression shall unless repugnant to the meaning or context hereof include its success or sand permitted as signs)

Preamble

WHEREAS, the Principal/Owner has floated the Tender (e-NIT No. **AIIMS/BBSR/ENGG/ACR/NIT/36** (herein after refer red to as "**Tender/Bid**") and intends to award, under laid down organizational procedure, contract for "**Renovation of Transplant ICU at AIIMS, Bhubaneswar.**" hereinafter referred to as the "**Contract**".

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the Land, Rules & Regulations, Economic use of resources and of fairness/ transparency in its relation with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose afore said both the parties have agreed to enter to this Agreement (hereinafter referred to as "**Pact**"), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

The Tendered Value which has been accepted by Competent Authority for "**Renovation of Transplant ICU at AIIMS, Bhubaneswar.**"

"is Rs _____/- (Rupees _____only).

NOW, THEREFORE, inconsideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under: -

Article - 1 : Commitment of the Principal/Owner.

1. The Principal/Owner commit itself to take all measures necessary to prevent corruption and to observe the following principles:

- (a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

- (b) The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.
- (c) The Principal/Owner shall endeavor to exclude from the Tender process any person, whose conduct in the past has been of biased nature.
2. If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal Code (IPC)/Prevention of Corruption Act, 1988 (P C Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

Article - 2 : Commitment of the Bidder(s)/Contractor(s)

1. It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standard and makes, and report to the Government/Department all suspected acts of **fraud or corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
2. The Bidder(s)/Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution: -
- (a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind what so ever during the Tender process or during the execution of the Contract.
- (b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, 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 cartelize in the bidding process.
- (c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- (d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/representatives in India, if any. Similarly, Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participates in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.
- (e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to, or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.
3. The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
4. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in

fraudulent practice means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests.

5. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may be fall upon a person, his/her reputation or property to influence their participation in the tendering process).

Article - 3 : Consequences of Breach.

Without prejudice to any rights that may be available to the Principal/Owner under law or the Contract or its established policies and laid down procedures, the Principal/Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/Contractor accepts and undertakes to respect and uphold the Principal/Owner's absolute right :-

1. If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article-2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days' notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. **Such exclusion may before vigor for a limited period as decided by the Principal/Owner.**

2. **Forfeiture of EMD/Performance Guarantee/Security Deposit :** If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contractor has accrued the right to terminate/determine the Contract according to Article-3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Performance Guarantee and Security Deposit of the Bidder/Contractor.

1. **Criminal Liability:** If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

Article - 4 : Previous Transgression.

1. The Bidder declares that no previous transgressions occurred in the last 05 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.

2. If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender processor action can be taken for banning of business dealings/holiday listing of the Bidder/Contractor as deemed fit by the Principal/Owner.

3. If the Bidder/Contractor can prove that he has resorted/recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/ Owner may, at its own discretion, revoke the exclusion prematurely.

Article - 5 : Equal Treatment of all Bidders/Contractors/Sub-contractors.

1. The Bidder(s)/Contractor(s) undertake(s) to demand from all sub-contractors a commitment in conformity with this Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Sub-contractors/sub-vendors.

2. The Principal/Owner will enter in to Pacts on identical terms as this one with all Bidders and Contractors.

3. The Principal/Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

Article - 6 : Duration of the Pact.

1. This Pact begins when both the parties have legally sign edit. It expires for the Contractor/Vendor 12 months after the completion of work under the contractor till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded.

2. If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority, AIIMS, Bhubaneswar.

Article – 7: Term & Conditions of Payment.

a. 70% payment will be released after supply of material & due verification of material by Engineer-in-Charge or his representative and balance 30% of the payment shall be released after completion of work.

b. Security Deposit 2.5% will be deducted from the bills of the Contractor.

c. The Income Tax as application shall be deducted from the bills unless exempted by the Income Tax Department.

e. Labour CESS @ 01% will be deducted from the Bill.

f. If water is used from the AIIMS, Bhubaneswar, then water charges will be deducted @1% of the bill amount.

f. Electrical charges as per actual meter reading shall be deducted from the bill. If connection is taken directly without installation of meter with prior permission from Executive Engineer (Electrical), then amount as per the usage shall be deducted from the gross bill amount as suggested by Executive Engineer (Electrical).

g. All the work shall be completed within **180 Days** from the date of issue of work Order by the Institute from Date-____to Date-____. All the aspects of safe installation shall be the exclusive responsibility of the Contractor. If the contractor fails to complete the work on or before the stipulated date, then a penalty at the Rate of 01% per month of delay to be computed on per day basis based on quantum of damage suffered due to stated delay on the part of the contractor (as per GCC – 2020) shall be levied subject to maximum of 10% of the accepted tendered valued of the work.

h. It will be mandatory for the bidders to indicate their bank account number and over relevant e-payment details so that payment could be made through RTGS/Other mechanism.

- i. GST and other taxes as applicable shall be recovered/paid from the contractor's bill as per Govt. of India/AIIMS Rules.

Article - 8 : Other Provisions.

1. This Pact is subject to Indian Law, place of performance and jurisdiction is the **Bhubaneswar** of the Principal/Owner, who has floated the Tender.
2. Changes and supplements need to be made in writing. Side agreements have not been made.
3. If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.
4. Should one or several provisions of this Pact turnout to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
5. It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Agreement/Pact, any action taken by the Owner/Principal in accordance with this **Agreement/Pact or interpretation thereof shall not be subject to arbitration.**

Article - 9 : LEGAL AND PRIOR RIGHTS.

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contact documents with regard any of the provisions covered under this Pact.

IN WITNESS WHEREOF the parties have signed and executed this Pact at the place and date first above mentioned in the presence of following witnesses: -

.....
(For and on behalf of Principal/Owner)

.....
(For and on behalf of Bidder/Contractor)

WITNESSES:

.....
(Signature, Name and address)

.....
(Signature, Name and address)

Dated :

Dated :

Place : Bhubaneswar

Place : Bhubaneswar

E-TENDERING INSTRUCTIONS TO BIDDERS

Instructions for Online Bid Submission:

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: <https://eprocure.gov.in/eprocure/app>.

REGISTRATION ON CPP PORTAL:

Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link "Online bidder Enrolment" on the CPP Portal which is free of charge.

As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.

Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.

Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.), with their profile.

Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC"s to others which may lead to misuse.

Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

SEARCHING FOR TENDER ENQUIRY DOCUMENT

There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.

Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective „My Tenders“ folder. This would enable the CPP Portal to intimate the bidders through SMS / e- mail in case there is any corrigendum issued to the tender document.

The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS

Bidder should take into account any corrigendum published on the tender document before submitting their bids.

Please go through the tender advertisement and the Tender Enquiry Document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.

Bidder, in advance, should get ready the documents/BoQ to be uploaded as indicated in the Tender Enquiry Document and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Scanned documents to be uploaded may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document and resulting in fast uploading. It is the responsibility of the bidder to ensure that uploaded scanned documents are legible.

To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents has been provided to the bidders. Bidders can use "My Space" or „Other Important Documents"" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

SUBMISSION OF BIDS

Submission of Bids

Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.

The bidder has to digitally sign and upload the required bid documents one by one as indicated in the Tender Enquiry document.

Bidder has to select the payment option as "offline" to pay the Bid Security/ EMD as applicable and enter details of the instrument.

Bidder should prepare the Bid Security/EMD as per the instructions specified in the Tender Enquiry Document. The original should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission or as specified in the Tender Enquiry Document. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.

Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed.

Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.

The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.

All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128-bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid openers' public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.

The uploaded Tender/Bid shall become readable only after the tender opening by the authorized bid openers.

Upon the successful and timely submission of bids (ie after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.

The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

ASSISTANCE TO BIDDERS

Any queries relating to the Tender Enquiry Document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the NIT.

Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk

Signature Not Verified

Digitally signed by CHITTA RANJAN
ROUT
Date: 2024.06.21 12:39:33 IST
Location: eProcure-EROC