Notice Inviting e-Tender

For

Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Bhubaneswar (2025-2027).

(Capacity - 725 TR x 5 = 3625TR, 4 Running + 1Standby)

All India Institute of Medical Sciences
Engineering Branch, Bhubaneswar (Odisha)-751019
www.aiimsbhubaneswar.nic.in

NIT No.	:	**AIIMS/BBSR/ENGG/ACR/2025/NIT/43**
Estimated Cost	:	**₹ 4,89,90,462/- (Rupees Four Crore Eighty-Nine Lakhs Ninety Thousand Four Hundred Sixty - Two only (including GST).**
Contract Period	:	**(24 Months)** (From the date of commencement of work)

"Certified that, this tender document contains **71** pages only**".**

TENDER DOCUMENT FOR e-Tendering

Office of the Executive Engineer, AC&R Division,
Engineering Department, AIIMS First Floor, Academic Building,
Bhubaneswar – 751019, Dist.: Khurdha (Odisha).
E-mail: eeacr@aiimsbhubaneswar.edu.in

Name of Work : Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Bhubaneswar (2025-2027).

NIT No. : **AIIMS/BBSR/ENGG/ACR/2025/NIT/43**

INDEX

			Page No
1.	Subject & Index	-	01 & 02
2.	Notice Inviting e-Tender / Notice Inviting Tender	-	03
3.	Information & Instructions to Bidders for Tendering	-	04 to 05
4.	Declaration to be given by the Tenderers (Annexure-A)	-	06
5.	Form for Detailed Information by the Bidder (Annexure-B)	-	07
6.	Form for details of all works of similar class completed during last 07 (Seven) Years (Annexure-C)	-	08
7.	Bidders undertaking against Item Rate Bid for Work (Annexure-D) & Affidavit (Annexure-E)	-	09 to 10
8.	General Rules & Directions and General Conditions	-	11 to 15
9.	Special Conditions of Contract	-	16 to 18
10.	Technical Specification	-	19 to 32
11.	Scope of Work	-	33 to 56
12.	Special Condition of Contract (SCC)	-	57 to 59
13.	Technical Bid (Eligibility Criteria)	-	60
14.	Form for Performance Security (Bank Guarantee)	-	61
15.	Format for Agreement	-	62 to 65
16.	PROFORMA OF SCHEDULES	-	66 to 68
17.	Financial Bid (Schedule of Quantities) & Proforma for Quoting Rate	-	69 to 70
18.	EMD declaration format (Annexure -F)	-	71

ALL INDIA INSTITUTE OF MEDICAL SCIENCE, BHUBANESWAR

NOTICE INVITING e-TENDER

The Executive Engineer(AC&R) on behalf of Executive Director, AIIMS Bhubaneswar, invites e-Bids in Two Bid System (i.e. Technical Bid and Financial Bid) from eligible Manufacturers /Companies / Firms / Authorized Agents / Distributors/ Dealers through online E-procurement solution portal of AIIMS Bhubaneswar (https://www.eprocure.gov.in/AIIMSBBSR) as per terms and conditions contained in this document for satisfactory performance for **"Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Bhubaneswar (2025-2027)."** as per the Specifications mentioned in Technical Bid. 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.

(a)	Name of Work	**Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Bhubaneswar (2025-2027).**
(b)	Tender No.	**AIIMS/BBSR/ENGG/ACR/2025/NIT/43**
(c)	Estimated Cost	**₹ 4,89,90,462/- (Rupees Four Crore Eighty-Nine Lakhs Ninety Thousand Four Hundred Sixty-Two only (including GST)**
(d)	EMD	**2 %** estimated cost **(Rs. 9,79,810/-)**.
(e)	Performance Security (Bank Guarantee)	**5 %** of Tendered Cost.
(f)	Security Deposit	**2.5 %** of the Contract Value.
(g)	Tender documents will be Issued From	**Download from Institute Website**. (i.e.**www.aiimsbubnaneswar.nic.in**, /**www.eprocure.gov.in**).
(h)	Last Date, Time & Place of Submission	**By 19/04/2025 at 17:00 Hours through online in www.eprocure.gov.in**
(i)	Date, Time for opening of Tender	**On 21/04/2025 at 15:30 Hours.**
(j)	Date, Time for pre-bid meeting and Place	**On 07/04/2025 at 15:30 Hours., SE Office**
(j)	Time and date of opening of Online Financial Bids	**To be intimated later on.**
(k)	Period during which documents of EMD, Registration Certificates, Undertaking and other Documents to be uploaded in CPP portal by the Bidders for reference. However, the Eligibility will be considered as per uploaded documents.	To be uploaded on **same Day i.e. on 19/04/2025** by **17:00 Hours**.

The bid document consisting of 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.

Executive Engineer (AC & R)
AIIMS, Bhubaneswar

INFORMATION AND INSTRUCTIONS TO BIDDERS

1. 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.
2. The Bidder is expected to examine all Instructions, Terms and conditions, forms, and specifications in the bidding document. The bid should be complete and in the prescribed format as per the requirement of the bid document. The bid should not be conditional. Failure to furnish all information required by the bidding document or submission of a bid not responsive to the bidding documents in all respect will be at the Bidder's risk and may result in rejection of the bid.
3. The Bidder shall bear all costs associated with the preparation and submission of its bid and AIIMS, Bhubaneswar will in no case be held responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.
4. Financial bids shall be opened online only for bidders for whom all the necessary 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.
5. The bid can be submitted through CPP portal and uploading the mandatory scanned documents as specified within the period of bid submission.
6. 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.
7. 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.
8. 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 labour 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.
9. **List of Eligibility Documents to be uploaded within the period of bid submission else the bid will be rejected:**
   (a) All the bidders shall upload scanned copy of **original EMD** issued by any **Nationalized/Scheduled Bank** in the form **Demand Draft (DD)** in favor of AIIMS Bhubaneswar payable at Bhubaneswar. However, only the L-1 bidder shall submit the hard copy of the original EMD to the office of EE(AC&R) after the opening of Financial bid within 7 days failing which the bid shall be rejected.
   (b) Certificates of **Work Experience** & Completion Certificate during last 07 (Seven) Years (from the last date of submission) of Similar work from Client not below the Rank of Executive Engineer, as mentioned in Ser. No. - 4(a), Page No. - 11 (refer under Eligibility Criteria).
   (c) Certificate of Registration for **GST**.
   (d) Copies of **Company incorporation/Registration certificate,**
   (e) **Electrical contractor license,**
   (f) **OEM/OEM Authorization certificate of Centrifugal type water cooled chillers.**
   (g) Copies of **ESI Registration**.
   (h) Copies of **EPF Registration**.
   (i) Declarations to be given by the Tenderers (**Annexure `A'**).
   (j) Detailed Information of Bidder (**Annexure `B'**) and details of work completed during last 07 (seven) years (**Annexure `C'**) signed by the Bidder.

(k) All the bidders shall upload Notarized Affidavit at **Annexure 'D'** and **Annexure 'E'** to be given by Tenderers. However, only the L-1 bidder shall submit the hard copy of the original Notarized Affidavit at Annexure D and E to the office of EE(AC&R) after the opening of Financial bid within 7 days failing which the bid shall be rejected.

(l) Performa for Earnest Money Declaration at **Annexure 'F'**.

(m) Digitally signed Tender document in PDF format only.

(n) CA's certification for **Annual Financial Turnover** of last 3 years (i.e. 2021-22, 2022-23 & 2023-24) with UDI Number.

Failing to upload documents in online (from a to n) the bid will be straight away rejected.

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. **FRAUD AND CORRUPTION:**

13.1 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.

13.2 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.

13.3 The Contractor shall be debarred for one-year from participating tenders in AIIMS, Bhubaneswar Authority for the following reason-

(i) If the contractors submit false experience/completion certificates, **(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.

Executive Engineer (AC & R)
AIIMS, Bhubaneswar

Annexure 'A'

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 Bhubaneswar, 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, then 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).

Date: _____ **Signature of the Tenderer**

Annexure 'B'

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)	
Service Tax Number. (enclose the attested copy of Certificate)	
GST Number (enclose the attested copy of Certificate)	
Whether the firm has Uploaded the Bank Draft/Pay Order/ Banker's Cheque of Earnest Money Deposit (EMD).	
Whether the Firm/Agency as signed each and every page of Tender/NIT	
EPF No. (Enclose the attested copy of EPF Registration Certificate)	
ESI Code.	
Any other information, if necessary.	

(Authorized Signature of the Bidder with Seal)

Annexure 'C'

FORM FOR DETAILS OF ALL WORKS OF SIMILAR CLASS COMPLETED DURING THE LAST 07 (SEVEN) YEAR (from the last date of submission of bid)

Sl. 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)	(i)	(j)
1.									
2.									
3.									
4.									
5.									
6.									
7.									

(Authorized Signature of the Bidder with Seal)

Annexure 'D'

AFFIDAVIT

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

e-Tender for the Work of "Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Bhubaneswar (2025-2027)."

To be submitted online by:

(a) Time and date of online Opening of Technical Bids: **21/04/2025 at 15:30 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 Annexure `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 forfeit the Earnest Money absolutely and my/our bid shall be rejected. 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 forfeit the said Performance guarantee absolutely. 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 clause 12.2 and 12.3 of the tender form. Further, I/We agree that in case of non-submission of Earnest money or Performance Guarantee as aforesaid, I /We shall be debarred for participation for one year in the retendering process of the work. I/We agree that in case of non-submission of Performance guarantee or non-commencement of work, I/We shall be suspended for 1(One) year form participating in the tenders of AIIMS, Bhubaneswar.

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 Engineer-in-Charge shall be free to forfeit the entire amount of EMD/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.)

Annexure 'E'

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 impose any action as per e-NIT Rules.

Business Address: -

_____

_____

_____

Name: _____

(Signature of Bidder with Firm's Seal)

Place: _____

Dated: _____

GENERAL RULES & DIRECTIONS AND GENERAL CONDITIONS

Executive Engineer (AC& R), AIIMS, Bhubaneswar on behalf of Executive Director, AIIMS, Bhubaneswar invites Item Rate Tender [**in Two Bid system (Technical & Financial)**] from Manufactures/Original Equipment Suppliers/ Authorized firms/ experienced registered contractor/ reputed firms having successfully completed works of similar nature as per eligibility criteria in any Central Government, State Government, PSU, Autonomous Body.

1. **Name of Work**: Tender for "**Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Bhubaneswar (2025-24).''**
2. The work is estimated to cost of **₹ 4,89,90,462/- (Rupees Four Crore Eighty-Nine Lakhs Ninety Thousand Four Hundred Sixty- Two only (including GST)**. 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. The similar work means "**Operation and Maintenance of Central HVAC System or SITC of Air Cooled/Water-Cooled Central Air-Conditioning System"** (Copy of WO(s) & respective completion certificate(s) must be furnished by the bidder in Tech Bid in support of eligibility)
4. **Eligibility Criteria**. Indenting Bidder, who fulfil following requirement shall be eligible to apply: -
   (a) Three (03) similar completed works each of value **not less than 40%** (i.e. for **₹ 1,95,96,185/-**) of estimated cost put to tender or Two (02) similar completed works each of value **not less than 60%** (i.e. for **₹ 2,93,94,278/-**) of estimated cost put to tender or one (01) similar completed work of value **not less than 80%** (i.e. for **₹ 3,91,92,370/-**) of estimated cost put to tender in last 07 (Seven) Years from last date of submission of bid**.**
   (b) The Bidder should have registration up to date with **Employee Provident Fund (EPF) Commissioner** and **Employee State Insurance (ESI) Corporation**.
   (c) The bidder should have positive net worth and should not have incurred loss in last 03 (Three) Years ending i.e. by **31st March 2024**, duly certified by Charted Accountant.
   (d) The experience of similar work should be from Central Govt., State Govt., PSU, Autonomous Body, Govt. Hospitals etc.
   (e) Agreements shall be drawn with the successful bidders for item/items on prescribed format. Bidders shall quote their rates as per various terms and conditions of the said form which will form part of the agreement.
   (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 2024** should be at least 30% of the estimated cost. **(i.e. ₹ 1,46,97,139/-)**
5. **Preparation & Submission of Tender through Online.** The Tender should be submitted in **02 (Two) parts i.e. Technical Bid and Financial Bid r**espectively. The Technical Bid should be sent by the Bidder through online as "Technical Bid" for "**Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Bhubaneswar (2025-27).''**
6. **Earnest Money Deposit.** The bidder shall be required to submit the Earnest Money Deposit (EMD) for an amount of **2%** of Estimate Cost (**Rs. 9,79,810/-)** by way of Demand Drafts, Bankers Cheque/BG or Fixed Deposit Receipt of a Nationalized bank/Scheduled Bank only. **Scanned Copy of the EMD must be uploaded/attached** with the Technical Bid. The EMD of the successful Bidder shall be returned after the submission of Performance Guarantee. Bid(s) received without Demand Drafts of EMD will be rejected.

i) As per SOP No.5/1 & Clause No.6 of CPWD Manual-2024 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 are subject to the validity & acceptance of their registration certificate on the date of opening of tender

7. **Performance Bank Guarantee.** The successful contractor will be required to furnish a Performance guarantee of **5%** (Five Percent) of Contract Value after receiving notification of award in the form of Fixed Deposit Receipt or Bank Guarantee from any Nationalized Bank (as per clause-v) 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. ***Performance guarantee 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. The security deposit which is 2.5% of the Contract amount can be forfeited by order of this Institute in the event of any breach or negligence or non– non-observance of any condition of the contract or for unsatisfactory performance or non-observance of any condition of the contract. Performance Security will be discharged after completion of contractor's performance obligations (including the Warranty/Guarantee period) under the contract.

9. 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.

10. The Tender paper/documents can be seen/downloaded from Official website & submitted through on line. For any query, Executive Engineer (AC& R), [mail Id: eeacr@aiimsbhubaneswar.edu.in, Phone: 8770964101], AIIMS, Bhubaneswar, may be contacted.

11. The 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.

12. 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.

13. The 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.

14. 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 Executive 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.

15. 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.

16. Bidders are strongly advised to inspect and assess the site conditions and its surroundings at their own cost and satisfy themselves before submitting their bids. The prospective bidders are advised to depute their technical experts with authorization letter to visit, assess and examine the conditions, requirements, nature & quantum of work which may be necessary for the purpose of bidding and submit a realistic offer for the successful execution of the work. In general, they 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/she inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed.

17. Bidders shall submit a realistic offer for the execution of the work at their own cost without any liability on AIIMS, BBSR. Price quoted by the bidder shall include maintenance of the equipment for trouble-free performance during the period of contract.

18. The bid for the works shall remain open for acceptance for a period of 90 days from the date of opening of bids.

19. 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.

20. (a) Security Deposit equal to 2.5% of the Contract Value will be deducted from the Bills of the Contractor

(b) The Income Tax 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) Goods and Services Tax (GST)

(a) **GENERAL REMARKS ON TAXES & DUTIES**: In view of GST Implementation from 1st July 2017, all taxes and duties including Excise Duty, CST/VAT, Service tax Entry Tax and other indirect taxes and duties have been submerged in GST. Accordingly, reference of Excise Duty, service Tax, VAT, Sales Tax, Entry or any other form of indirect Tax except of GST mentioned in the bidding document shall be ignored.

(b) Bidders are required to submit copy of the GST Registration certificated while submitting the bids wherever GST (CGST & SGST/UTGST or IGST) is applicable.

(c) "GST shall mean Goods and services Tax charged on the supply of material(s) and services. The term 'GST' shall be construed to include the integrated Goods and Services Tax (Hereinafter referred to as "IGST") or central Goods and Services Tax (hereinafter referred to as "CGST") or State Goods and services Tax (Hereafter referred to as "SGST") or union Territory Goods and services Tax (hereinafter referred to as "UTGST").

(d) Quoted price/rate(s) should be inclusive of all taxes and duties, including GST.

21. The Bidder 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 Bidder shall also be responsible for the insurance of its personnel. The Bidder 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 & abolition) Act, 1970/ The Contract Labour (Regulation & abolition) Central Rules, 1971.
    (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.
    (i) Minimum Wages Act, 1948.
22. **Breach of Terms and Conditions.** Noncompliance of any terms and conditions enumerated in the contract shall be treated as breach of contract or in Case of breach of any terms and conditions as mentioned above, the Competent Authority, will have the right to reject the bid at any stage without assigning any reason thereof and nothing will be payable by AIIMS, Bhubaneswar.
23. **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. The decision of Engineer-in-Charge in this regard would be final and binding on the Tenderer.
24. **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.
25. **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.
26. Payment will be made on quarterly basis after due Certification of the Bills by the Representative of Engineer-in-Charge.
27. GST and other Taxes as applicable shall be recovered/ paid from the contractor's bill as per Govt. of India/AIIMS Rules.
28. **Penalty:** For non-compliance or partial compliance of satisfactory execution of items, the Engineer-in-charge reserves his rights to levy compensation in accordance with the scale of non-conformity and the period for which this non-conformity continues. The delay in attending complaint shall attract a levy of compensation as decided by EIC or his representative.
29. Emergency complains (24*7) must be attended immediately and if there is a major complain, it should be rectified on the urgent basis.

30. All necessary tools related to the work Welding Machine, Grinder, Cutter etc. must available at site within the seven days from the issue of work order.

31. The necessary quantity of spare parts related to maintenance work must be available at site before processing the quarter bill which is also verified by Engineer-in-Charge and make of the spares & consumables to be used for repair / maintenance of the machines are mentioned in approved make list.

32. Vendor shall submit the following documents after execution of given work:
    a) Work Completion Certificate (with final Bill)
    b) Testing & Commissioning Certificate (if applicable)
    c) Material Test Certificate (if applicable)
    d) Warranty/ Guarantee Certificate (if applicable)
    e) Colour Photos for executed work on glossary paper
    f) Non-Objection Certificate (NOC) regarding work (with final Bill)
    g) GST return up to date Voucher
    h) Bank Account Details
    i) Certificate for engagement of Technical Staff
    j) Stock Register and Material Consumed details duly signed by the concerned JEs.
    k) EPF & ESI challan copy of Manpower.
    l) Attendance copies of each month.
    m) Preventive Maintenance Record.
    n) Bank statement against salary credit of Manpower deployed.
    o) Any other documents to be required as per CPWD norms.

33. (i) The Quoted rate shall Include following amount;
    (a) Minimum wages per person per month.
    (b) ESI
    (c) EPF

The amount mentions A to C in each category may increase or decrease depending upon the minimum wages prescribed under the statute. The contractor shall disburse wages to workmen engaged by 7th day of each month through Electronic Transfer (ECS) & The transfer statement should be deposited with the R/A bill. In case due to any circumstances beyond control of contract, payment shall be made by bearer cheque for the period up to maximum of three months, in any circumstances, cash payment of wages is not acceptable. The contractor will submit the documents along with the bill such as proof of deposit of ESI, EPF, GST & proof of payment of salary along with any deductions authorized by concern employee, if any.

(ii) **labour wages:**

The contractor has to pay the prevailing minimum wages issued by the office of Chief Labour Commissioner, Govt. of India from time to time.

- Minimum Wages + VDA
- ESI – Employer Contribution @ 3.25% of above (Subject to wage limit of ₹21,000/-)
- EPF – Employer Contribution @ 12% + 1% (12% Subject to wage limit of ₹15,000

Executive Engineer (AC & R)
AIIMS Bhubaneswar

SPECIAL CONDITIONS OF CONTRACT

1. Any facility not mentioned in this scope, but which is vital to "**Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Bhubaneswar (2025-27)"** are assumed to be included in the scope of work.

2. The Contractor has to ensure safety and provide adequate supervision/precautions and shall ensure that the workmen engaged by him are professionally competent and have the required expertise to carry out the intended maintenance.
3. During working at site, some restrictions may be imposed by Engineer-in-Charge/Security staff of Institute or Local Authorities regarding safety and security etc., the contractor shall be bound to follow all such restrictions/instruction & nothing extra shall be payable on this account & no claim for delay on this account shall be entertained.
4. The tender shall be based on Conditions of Contract and tenderers are required to quote their own rates against each item in schedule of quantities (B.O.Q), which is enclosed. All rates shall remain firm for the contract period/extended contract period.
5. If the contractor fails to proceed with the work within the stipulated time as specified from the date of issue of work order to proceed with the work, it shall be treated as failure on the part of the Contractor to discharge the Contractual obligations which may result in termination of the contract and forfeiture of the performance guarantee and Security Deposit.
6. At the end of the contract, contractor must hand over all the machines (as mentioned in the contract) in healthy and working condition before processing the final quarter bill.
7. All the works to be carried out in accordance with latest CPWD/BIS Specifications and as per the directions of Engineer-in-charge.
8. **Packing**:
   The supplier shall provide such packing of the goods, as is required to prevent their damages or deterioration during the transit to their final destination as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit.

9. **Drawing and Specifications**:
   A copy of tender documents and all relevant drawings and specifications viz. Indian standards, latest CPWD HVAC specifications etc. shall be made available at site if & when asked for reference.

10. **Cost of Tests**:
    The cost of preparing samples and carrying out tests (if required) for quality of material or workmanship will be borne by the contractor as are specifically mentioned in the specifications laid down in contract. The cost of all test carried out by Laboratories directed by the Engineer-In-Charge will be borne by the contractor.

11. The work shall be carried out strictly as per CPWD general specification for HVAC -2024.

12. The contractor has to get approved all the material from the Engineer-in-Charge before its actual use at site of work.
13. The scope of work includes all works required for execution work such as cutting /grinding/welding etc. and making good the same. Nothing extra will be paid to contractor for the same.
14. The watch and ward of material and installation shall rest on the part of contractor during execution of work and till handing over of the same after completion of work in accordance with schedule of work.
15. The contractor will take care of the building etc. while handling / installing the equipment to avoid damages to the building. If any damages occur during execution of work, it shall be made good by contractor without any extra cost.
16. Existing materials on good condition may be used after joint inspection by Engineer-in charge & AIIMS representatives & vendor.

17. Dismantling of non-used materials to be deposited at Engineering Dept. by the Firm.
18. For all items; CPWD specifications with correction slips up to the date of receipt of tender shall be followed. For the items which are not covered under CPWD specifications; the special conditions /B.I.S. specifications shall apply. In this regard the decision of Engineer-in- charge shall be final & binding.

19. Wherever any reference is made of any Indian Standard, it shall be taken as reference to the latest edition with all amendments / revision issued thereto up to the date of receipt of tenders.

20. On account of security consideration, there could be some restrictions on the working hours, movement of vehicles for transportation of materials. The contactor shall be bound to follow all such restrictions and adjust the program for execution accordingly, for which nothing extra shall be paid.

21. The work shall be carried out in a manner complying in all respects with the requirements of relevant bye laws of the local bodies, Labour Laws, minimum wages act, workmen compensation act and other statutory laws enact by Central Govt. as well as State Govt.

22. No residential accommodation shall be provided to any of the staff engaged by the contractor. The contractor shall not be allowed to erect any temporary set up for staff in the campus.

23. No claims of the labors shall be entertained by the department including that of providing employment, regularization of services etc.

24. All labour & transportation, ladders, Hydra, scaffolding etc., electrical instruments/equipment's required for execution of the work shall be arranged by the contractor.

25. Staff employed by the contractor should be well behaved, polite & courteous. Any complaint against staff should be taken very seriously and such staff should be removed by the contractor immediately from the site and replacement shall be provided immediately.

26. All dismantled material will be removed from site by contractor after verification of measurement of the same by JE and Chases, holes & drilling works etc. shall be done using power operated tools in the cost of Contract. No extra will be paid for the same.
27. The contractor shall make all safety arrangement required for the labour engaged by him at his own cost. All consequences due to negligence or due to lapse of security/safety or otherwise shall remain with the contractor. AIIMS Bhubaneswar will not be responsible for any mishap, injury, accident or death of the contractor's staff. No claim in this regard shall be entertained / accepted by the AIIMS Bhubaneswar. Also, Contractor is responsible to the damage caused to any man/material/ Govt. property by his or his labour during execution of work and this should be rectified by the contractor at his own cost.

28. For non-compliance or partial compliance of satisfactory execution of items, the Engineer-in-charge reserves his rights to levy compensation as per clause 2 of CPWD GCC in accordance with the scale of non-conformity and the period for which this non- conformity continues. However, the total amount of this compensation for the whole contract shall not exceed 10% of the tendered value of this contract. This shall be without prejudice to other remedies available to Engineer-in-charge under this contract to act against the contractor.

29. The materials used for carrying out the work shall be of best locally available quality and the contractor has to carry out the necessary testing of the material (if required) as ordered by the Engineer-in-Charge for its conformity and all testing charges shall be borne by the contractor.

30. As directed by EIC/EE(AC&R)/AE(AC&R)/JE(AC&R) the deployed manpower shall work in other similar related work etc. as and when required.

31. Initially this Contract is for **Two-year period**, if the work is satisfactory and approved by Engineer-in-charge, the Contract period can be extended to One more year on the same rate, terms & Conditions and Bank Guarantee will be extended up to one year and the agreement will also be renewed or supplementary Agreement may be executed.

32. A dedicated telephone number is to be provided by the contractor for logging of complaints.

33. In the case of discrepancy between the schedule of quantities, the Specifications and/or the Drawings, the following order of preference shall be observed: -
    (a) Description of schedule of quantities (B.O.Q).
    (b) General rules & Directions and General Conditions/ Special Conditions/CPWD Specifications.
    (c) Indian standards specifications/BIS.
    (d) Any reference made to any Indian standards specifications in these documents, shall imply to the latest version of that standard, including such revisions/amendments as issued by the Bureau of Indian Standards up to last date of receipt of tenders. The contractor shall keep at his own cost all such publications of relevant Indian Standards applicable to the work at site.
    (e) If there are varying or conflicting provisions made in any one document forming Part of contract, Engineering In-charge shall be deciding authority and regard to the intention of the document, his decision shall be final and binding on the Contractor.
34. The Vendor shall submit colour photographs during CMC, while submitting the Bills.
35. If the performance of the contractor is found unsatisfactory during the period of CMC, the contract shall be ceased, after giving notice period of 3 months by Engineering -in-Charge (EIC).
36. **Payment:** Quarterly payment will be made on submission of original tax invoice along with all necessary documents by the vendor after verification of work done by the vendor, in the same period, from AIIMS Authorities.
37. The contractor will be fully responsible for the safety of their workers, stocks, furniture, fixtures, machines and equipment etc. AIIMS/BBSR will not be responsible/liable for any damages caused to the contractor by any way including theft & fire etc. and no such claim to compensate any such damages will be entertained by AIIMS/BBSR. The contractor shall be responsible for any loss/theft /pilferage or damage to the properties belonging to AIIMS/BBSR, caused by their employees/staff negligence and will pay/compensate to AIIMS/BBSR or allow the amount of loss sustained by the AIIMS, BBSR, to be deducted from any such amount found due to the contractor. The responsibility for any such theft or loss or damages/ pilferage shall have to be decided on the finding of the inquiry committee, to be constituted for this purpose by the AIIMS/BBSR. If considered necessary, AIIMS/BBSR will also be free to take up the matter with the police for proper investigations/ action and recovery of loss due to such theft/ pilferage and damages etc.

TECHNICAL SPECIFICATION

1. GENERAL

Technical specifications in this section cover the "**Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Bhubaneswar (2025-27)".**

2. **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 2003 and Indian CEA Regulation 2023 as amended up to date shall also apply. Where-ever, appropriate Indian Standards are not available, relevant IEC Standard shall be applicable.

3. **ITEMS:**

HIGH & LOW SIDE MACHINERIES					
	Material Component (Chiller Plant)				
Sl no.	**Description of Item**	**Make**	**Capacity**	**Qty.**	**Remarks**
Chiller: -					
1	Centrifugal- type water cooled **Chiller** (In Plant Room), (**Capacity 725 TR** each, Power Consumption at Full load less than 0.67 IKW/TR, at NPLV less than 0.40 IKW/TR)	**Carrier**	**725 TR**	**5**	
Condenser Pump: -					
2	**Condenser Water Pumps** (In Plant Room) (Capacity **10875 LPM, Head 25 m**, Speed 1450 RPM, Starter Type- Star delta)	**Crompton Greaves**	**75 KW**	**5**	
Chilled Water Pump: -					
3	**Chilled Water Pumps Primary** (In Plant Room) (Capacity **6570 LPM, Head 12 m**, Speed 1450 RPM, Starter Type- Star delta)	**Crompton Greaves**	**18.5 KW**	**5**	
Secondary Pump: -					
4	**Secondary Pumping** System (In Plant Room) For **Hospital Building Zone-1** (**Capacity 6418 LPM, Head 10 m, Speed 1450 RPM, Starter Type- VFD**)	**Grundfos**	**18.5 KW**	4	
	Secondary Pumping System (In Plant Room) for **Medical College+ Administration Building+ College of Nursing + Auditorium Building Zone-2** (**Capacity 3515 LPM, Head 14 m, Speed 1450 RPM, Starter Type- VFD**)	**Grundfos**	**15 KW**	**3**	
Tertiary Pumping: -					
5	1. Hospital Building				
	Zone-1 (Normal Elect. Supply) (Capacity **7245 LPM**, Head 20 m, Speed 1450 RPM, Starter Type- VFD)	**Grundfos**	**30 KW**	**3**	
	Zone- 2 (Emergency On DG) (Capacity **6002 LPM**, Head 20 m, Speed 1450 RPM, Starter Type- VFD)	**Grundfos**	**37KW**	**2**	
	2. Medical College + Nursing				
	Zone-3 (Normal) (Capacity **3942 LPM**, Head 15 m, Speed 1450 RPM, Starter Type- VFD)	**Grundfos**	**15 KW**	**2**	
	3. Administration Building				
	Zone- 4 (Normal) (Capacity **1877 LPM**, Head 15 m, Speed 1450 RPM, Stater Type- VFD)	**Grundfos**	**7.5KW**	**2**	
	4. Main Auditorium				

	Zone- 5 (Normal) (Capacity **1154 LPM**, Head 15 m, Speed 1450 RPM, Starter Type- VFD)	**Grundfos**	**5.5KW**	**2**	
Cooling Tower: -					
6	**Cooling Towers** (On Plant Room Terrace) (Type- FRP induced draft, **Capacity-10875 LPM**, Heat rejection **Capacity- 274500 K. Cal/hr**., Fan speed 500 RPM max, Starter Type- VFD)	**Paharpur**	**37 kw**	**5**	

AIR HANDLING UNITS (In Respective Areas)

SL No.	Description (AHU TAG No. & area Fed)	Capacity (TR)	Fresh Air (CMH)	Total Air QTY(CMH)	Water Flow (LPM)	COIL Row (NOS.)	Static MM WG	QTY (NOS.)
A.	**Hospital Building**							
	AHU for OT's							
1	H-AH0F-17	5.6	850	5600	51	4	125	1
2	H-AH1F-02	6.5	1000	7000	59	4	125	1
3	H-AH1F-03	6.0	945	6660	55	4	125	1
4	H-AH1F-04	6.0	945	6250	55	4	125	1
5	H-AH1F-05	6.5	1000	6500	59	4	125	1
6	H-AH1F-11	7.3	1300	7750	66	4	125	1
7	H-AH1F-12	7.0	1267	7500	64	4	125	1
8	H-AH1F-13	7.3	1300	7300	66	4	125	1
9	H-AH2F-02	4.1	857	3460	37	4	125	1
10	H-AH2F-05	6.3	578	3900	57	4	125	1
11	H-AH2F-09	7.3	1300	7750	66	4	125	1
12	H-AH2F-10	7.0	1267	7480	64	4	125	1
13	H-AH2F-11	7.3	1300	7280	66	4	125	1
14	H-AH3F-02	6.5	1000	7000	59	4	125	1
15	H-AH3F-03	6.0	945	6700	55	4	125	1
16	H-AH3F-04	6.0	945	6300	55	4	125	1
17	H-AH3F-05	6.5	1000	6500	59	4	125	1
18	H-AH3F-11	7.3	1300	7750	66	4	125	1
19	H-AH3F-12	7.0	1267	7500	64	4	125	1
20	H-AH3F-13	7.3	1300	7300	66	4	125	1
21	H-AH4F-01	6.5	1000	7000	59	4	125	1
22	H-AH4F-02	6.1	945	6800	55	4	125	1
23	H-AH4F-03	6.1	945	6400	55	4	125	1
24	H-AH4F-04	6.5	915	6700	59	4	125	1
25	H-AH4F-10	7.3	1300	7750	66	4	125	1
26	H-AH4F-11	7.0	1267	7500	64	4	125	1
27	H-AH4F-12	7.3	1300	7300	66	4	125	1
	AHU'S for ICU'S & LABS							
28	H-AH-(-1 F)-03	20.0	6200	14800	243	4	75	1
29	H-AH0F-04 A	14.6	1750	15115	131	4	75	1
30	H-AH0F-04 B	14.3	1750	13760	131	4	75	1
31	H-AH0F-06	13.8	1654	11600	125	4	75	1
32	H-AH0F-08, 09	26.0	3400	22560	236	4	75	2

33	H-AH0F-10	24.5	3437	22500	223	4	75	1
34	H-AH0F-11	27.0	3720	24300	245	4	75	1
35	H-AH0F-12	13.2	2175	9850	120	4	75	1
36	H-AH0F-13	14.7	2343	10700	134	4	75	1
37	H-AH0F-14	25.5	5488	17200	232	6	75	1
38	H-AH0F-15	13.6	2100	10350	124	4	75	1
39	H-AH0F-16	7.5	1565	4600	68	6	75	1
40	H-AH1F-09,10	22.6	3346	17550	205	4	75	2
41	H-AH2F-03	10.6	2006	8100	96	4	75	1
42	H-AH2F-07,08	22.6	3346	17550	205	4	75	2
43	H-AH3F-09,10	22.6	3346	17550	205	4	75	2
44	H-AH4F-08,09	22.6	3346	17550	205	4	75	2
	AHU'S For other Area							
45	H-AH(-1F)-01 (CS)	11.3	850	9400	103	4	40	1
46	H-AH(-1F)-02 (CS)	10.4	765	8750	89	4	40	1
47	H-AH(-1F)-04, 05, 06	16.7	3077	11700	152	4	40	3
48	H-AH(-1F)-07 (CS)	9.7	860	6800	88	4	40	1
49	H-AH(-1F)-08 (CS)	3.4	115	3400	31	4	40	1
50	H-AH(-1F)-09 (CS)	9.8	408	9150	99	4	40	1
51	H-AH(-1F)-10 (CS)	5.5	136	5600	50	4	40	1
52	H-AH0F-01	25	5564	16550	227	6	40	2
53	H-AH0F-02,03	17	2973	8500	155	6	40	1
54	H-AH0F-05 (CS)	3.8	947	2900	35	4	40	1
55	H-AH0F-07	6.6	1688	4600	60	6	40	1
56	H-AH0F-18,19,20	21.7	3366	16360	197	4	40	3
57	H-AH0F-21	19.5	3116	11900	177	6	40	1
58	H-AH0F-22	22.0	3859	13200	200	6	40	1
59	H-AH0F-23 (CS)	10.2	1050	4500	93	6	40	1
60	H-AH0F-24,25,26,27	13.5	1645	6200	123	6	40	4
61	H-AH0F-28,29	19.5	3116	11900	177	6	40	2
62	H-AH0F-30 (CS)	10.2	1050	4500	93	6	40	1
63	H-AH0F-31,32,33,33	19.5	3116	11900	177	6	40	4
64	H-AH0F-35	33.4	4624	25300	303	4	40	1
65	H-AH0F-36	18.7	2655	13950	170	4	40	1
66	H-AH1F-01	11.5	2487	7000	105	6	40	1
67	H-AH1F-06	5.6	1430	4050	51	4	40	1
68	H-AH1F-07	12.0	2060	7950	109	6	40	1
69	H-AH1F-08	7.5	1374	5200	68	6	40	1
70	H-AH1F-14	7.5	1300	5200	64	6	40	1
71	H-AH1F-15 (CS)	5.2	1452	4050	47	6	40	1
72	H-AH1F-16	12.0	2020	7950	109	6	40	1
73	H-AH1F-17,18,19	17.6	3232	12160	160	6	40	3
74	H-AH1F-20,21	19.5	3116	11900	177	6	40	2
75	H-AH1F-22 (CS)	10.2	1050	4500	93	6	40	1
76	H-AH1F-23,24	19.5	3120	11900	177	6	40	2
77	H-AH1F-25 (CS)	10.2	1050	4500	93	6	40	1
78	H-AH1F-26,27,28,29	19.5	3120	11900	177	6	40	4

79	H-AH2F-01	14.0	2470	9150	127	6	40	1
80	H-AH2F-04	16.3	2900	11950	148	4	40	1
81	H-AH2F-06	10.7	2065	7036	97	6	40	1
82	H-AH2F-12	7.5	1300	5200	64	6	40	1
83	H-AH2F-13(CS)	5.2	1452	4050	47	4	40	1
84	H-AH2F-14	12.0	2018	7950	409	4	40	1
85	H-AH2F-15,16,17	17.6	3232	12160	160	4	40	3
86	H-AH2F-18,19	19.5	3116	11900	177	6	40	2
87	H-AH2F-20 (CS)	5.4	2100	2850	50	6	40	1
88	H-AH2F-21,22	19.5	3120	11900	177	6	40	2
89	H-AH2F-23 (CS)	10.2	1050	4500	93	6	40	1
90	H-AH2F-24,25	19.5	3116	11900	177	6	40	2
91	H-AH3F-01	13.8	2212	8400	125	6	40	1
92	H-AH3F-06	5.6	1430	4050	51	4	40	1
93	H-AH3F-07	12.0	2060	7950	109	6	40	1
94	H-AH3F-08	7.5	1374	5200	68	4	40	1
95	H-AH3F-14	7.0	1300	5200	64	6	40	1
96	H-AH3F-15 (CS)	5.2	1452	4050	47	4	40	1
97	H-AH3F-16	12.0	2018	7950	109	4	40	1
98	H-AH3F-17,18,19	17.6	3232	12160	160	4	40	3
99	H-AH4F-05	5.6	1430	4500	52.5	4	40	1
100	H-AH4F-06	12.4	2060	8300	113	6	40	1
101	H-AH4F-07	7.8	1374	5400	71	4	40	1
102	H-AH4F-13	7.8	1300	5400	71	4	40	1
103	H-AH4F-14(CS)	5.6	1452	4500	52.5	4	40	1
104	H-AH4F-15	12.4	2018	8300	113	4	40	1
105	H-AH4F-16,17,18	17.6	3232	12160	160	4	40	3
106	H-AH5F-01,02	18.0	3790	12000	164	6	40	2
107	H-AH5F-03,04,05	18.3	3232	13000	166	4	40	3
B.	**Academic block**							
108	MC-AH(-1F)-01,02(CS)	7.7	770	5000	70	4	40	2
109	MC-AH(-1F)-03(CS)	8.4	1032	5100	76	6	40	1
110	MC-AH(-1F)-04(CS)	11.1	1230	7500	101	6	40	1
111	MC-AH(-1F)-05(CS)	6.9	547	3700	63	6	40	1
112	MC-AH(-1F)-06(CS)	6.3	547	2900	63	6	40	1
113	MC-AH(-1F)-07(CS)	7.0	602	3200	68	6	40	1
114	MC-AH(-1F)-08(CS)	7.5	602	4000	68	6	40	1
115	MC-AH(0F)-01(CS)	12.5	1250	8000	114	6	40	1
116	MC-AH(0F)-02(CS)	12.5	1250	8000	114	6	40	1
117	MC-AH(0F)-03(CS)	6.9	547	3700	63	6	40	1
118	MC-AH(0F)-04(CS)	6.3	547	2900	63	6	40	1
119	MC-AH(0F)-05(CS)	7.5	602	4000	68	6	40	1
120	MC-AH(0F)-06(CS)	7.0	602	3200	68	6	40	1
121	MC-AH(0F)-07(CS)	3.8	309	2500	35	6	40	1
122	MC-AH(0F)-08(CS)	4.0	309	2700	36	6	40	1
123	MC-AH(+1F)-01(CS)	16.9	1570	12500	154	4	40	1
124	MC-AH(+1F)-02(CS)	17.1	1260	14000	155	4	40	1

125	MC-AH(+1F)-03(CS)	14.7	1010	13100	150	4	40	1
126	MC-AH(+1F)-04(CS)	12.5	1250	8000	114	6	40	1
127	MC-AH(+1F)-05(CS)	12.2	1250	7700	114	6	40	1
128	MC-AH(+1F)-06CS)	3.6	405	1900	33	6	40	1
129	MC-AH(+2F)-01(CS)	11.7	1050	8800	106	4	40	1
130	MC-AH(+2F)-02(CS)	13.0	1250	8550	118	4	40	1
131	MC-AH(+2F)-03(CS)	13.1	1250	8600	118	4	40	1
132	MC-AH(+2F)-04(CS)	6.9	550	3700	63	6	40	1
133	MC-AH(+2F)-05(CS)	6.3	550	2900	63	6	40	1
134	MC-AH(+2F)-06(CS)	7.5	602	4000	68	6	40	1
135	MC-AH(+2F)-07(CS)	7.0	602	3200	68	6	40	1
136	MC-AH(+2F)-08(CS)	6.8	606	4900	62	4	40	1
137	MC-AH(+2F)-09(CS)	4.0	182	2700	36	4	40	1
138	MC-AH(+2F)-10(CS)	4.0	182	2700	36	4	40	1
139	MC-AH(+3F)-01(CS)	8.1	900	4300	74	6	40	1
140	MC-AH(+3F)-02(CS)	14.6	1550	9750	132	4	40	1
141	MC-AH(+3F)-03(CS)	17.0	1550	12000	155	4	40	1
142	MC-AH(+3F)-04 (CS)	11.0	1050	7400	100	4	40	1
C.	**Nursing College**							
143	NC-AH(-1F)-01(CS)	15.6	1115	9100	142	6	40	1
144	NC-AH(-1F)-02(CS)	5.9	215	5150	40	4	40	1
145	NC-AH(-1F)-03(CS)	4.0	20	4300	36	4	40	1
146	NC-AH(-1F)-04(CS)	7.6	476	5300	70	4	40	1
147	NC-AH(0F)-01(CS)	17.5	290	14600	160	6	40	1
148	NC-AH(+3F)-01(CS)	12.6	434	9800	115	4	40	1
149	1+A150:I174	8.6	360	6600	78	4	40	1
150	NC-AH(+3F)-03(CS)	4.9	162	3900	45	4	40	1
D.	**Auditorium**							
151	AD-AH(0F)-01,02	15.5	378	15150	141	4	40	2
152	AD-AH(+1F)-01,02	38.0	4356	21300	345	6	40	2
153	AD-AH(+1F)-03,04(CS)	5.3	200	4550	48	4	40	2
E.	**Administration & Lecture Theatre**							
154	AL-AH(-1F)-01 (CS)	14.7	1260	6800	136	6	40	1
155	AL-AH(-1F)-02 (CS)	8.5	180	4900	83	4	40	1
156	AL-AH(-1F)-03 (CS)	14.2	1260	5850	136	6	40	1
157	AL-AH(-1F)-04 (CS)	12.2	1100	5100	110	6	40	1
158	AL-AH(-1F)-05 (CS)	12.4	1105	5100	110	6	40	1
159	AL-AH(0F)-01,02 (CS)	15.0	110	10335	87	4	40	2
160	AL-AH(0F)-03 (CS)	11.5	196	11722	105	4	40	1
161	AL-AH(0F)-04 (CS)	8.5	272	8475	77	4	40	1
162	AL-AH(0F)-05 (CS)	8.9	587	6100	81	4	40	1
163	AL-AH(0F)-06 (CS)	6.0	70	6400	55	4	40	1
164	AL-AH(0F)-07 (CS)	11.3	130	12135	103	4	40	1
165	AL-AH(0F)-08 (CS)	3.0	85	3100	28	4	40	1
166	AL-AH(+1F)-01 (CS)	20.0	200	14700	126	4	40	1
167	AL-AH(+1F)-02 (CS)	16.1	247	16070	146	4	40	1

168	AL-AH(+1F)-03 (CS)	3.9	120	3600	35	4	40	1
169	AL-AH(+1F)-04 (CS)	10.5	220	10650	95	4	40	1
170	AL-AH(+1F)-05 (CS)	11.3	290	10000	103	4	40	1
F.	**AUTOPSY HALL**							
171	AT-AH(0F)-01 (CS)	4.0	615	2000	36	4	40	1
							Total	**209**

Fan Coil Units

SL No.	Description (FCU TAG No.)	Capacity (TR)	Fresh Air (CMH)	Water Flow (LPM)	QTY (NOS.)
1	H-FCU(-1F)-01,02,03	1	85	9.0	3
2	H-FCU(-1F)-04	3	272	27.0	1
3	H-FCU0F-01,02,03	1.5	136	13.6	3
4	H-FCU0F-04	1.0	85	9.0	1
5	H-FCU1F-01,02,03	1.5	136	13.6	3
6	H-FCU1F-04	1.0	85	9.0	1
7	H-FCU1F-05,06,07	1.5	136	13.6	3
8	H-FCU1F-08	1.0	85	9.0	1
9	H-FCU2F-01,02,03	1.5	136	13.6	3
10	H-FCU2F-04	1.0	85	9.0	1
11	H-FCU2F-05,06,07	1.5	136	13.6	3
12	H-FCU2F-08	1.0	85	9.0	1
13	H-FCU2F-09,10,11	1.5	136	13.6	3
14	H-FCU2F-12	1.0	85	9.0	1
15	H-FCU3F-01,02,03	1.5	136	13.6	3
16	H-FCU3F-04	1.0	85	9.0	1
17	H-FCU3F-05,06,07	1.5	136	13.6	3
18	H-FCU3F-08	1.0	85	9.0	1
19	H-FCU3F-09,10,11	1.5	136	13.6	3
20	H-FCU3F-12	1.0	85	9.0	1
21	H-FCU4F-01,02,03	1.5	136	13.6	3
22	H-FCU4F-04	1.0	85	9.0	1
23	H-FCU4F-05,06,07	1.5	136	13.6	3
24	H-FCU4F-08	1.0	85	9.0	1
25	H-FCU4F-09,10,11	1.5	136	13.6	3
26	H-FCU4F-12	1.0	85	9.0	1
27	H-FCU5F-01,02,03	1.5	136	13.6	3
28	H-FCU5F-04	1.0	85	9.0	1
29	H-FCU5F-05,06,07	1.5	136	13.6	3
30	H-FCU5F-08	1.0	85	9.0	1
31	H-FCU5F-09,10,11	1.5	136	13.6	3
32	H-FCU5F-12	1.0	85	9.0	1
33	H-FCU6F-01,02,03	1.5	136	13.6	3
34	H-FCU6F-04	1.0	85	9.0	1
35	H-FCU6F-05,06,07	1.5	136	13.6	3
36	H-FCU6F-08	1.0	85	9.0	1
37	H-FCU6F-09,10,11	1.5	136	13.6	3
38	H-FCU6F-12	1.0	85	9.0	1
39	AD-FCU(-1F)-01,02	3.0	136	13.6	2
40	MC-FCU(-1F)-01	2.0	220	18.0	1
41	MC-FCU(-1F)-02	2.5	220	24.0	1

42	NC-FCU(-1F)-01	1.0	85	9.0	1
				Total	**81**

*H-Hospital Building, MC-Medical college, NC- Nursing college, AL- Admn. & Lecture Theatre, AT- Autopsy Hall, AY-Ayush

Cassette Units

SL No.	Description (Cassette TAG No.)	Capacity (TR)	Fresh Air (CMH)	Water Flow (LPM)	QTY (NOS.)
1	H-CA(-1)-01	4.0	2500	36	1
2	H-CA(-1)-02,03	2.0	1250	18	2
3	H-CA(-1)-04,05,06	3.2	2000	30	3
4	H-CA(0)-01,02,03,04	2.0	1250	18	4
5	H-CA(0)-05	1.5	1000	14	1
6	H-CA(+1)-01,02,03,04	2.0	1250	18	4
7	H-CA(+1)-05	1.5	1000	14	1
8	H-CA(+2)-01,02,03,04	2.0	1250	18	4
9	H-CA(+2)-05	1.5	1000	14	1
10	H-CA(+3)-01,02,03,04	2.0	1250	18	4
11	H-CA(+3)-05	1.5	1000	14	1
12	H-CA(+4)-01,02,03,04	2.0	1250	18	4
13	H-CA(+4)-05	1.5	1000	14	1
				Total	**31**

Heat Recovery Unit

SL NO.	HRU Tag No. & Location	Fresh Air (S. Air CMH)	QTY. (NOS.)
1	H-HRU-(-1F)-01,02,03	3060	3
2	H-HRU-(0F)-01,15,19	3910	3
3	H-HRU-(0F)-02,03,04,06,07,08,09	3060	7
4	H-HRU-(0F)-10,12,16,17,18,20	3400	6
5	H-HRU-(0F)-05,23	5440	2
6	H-HRU-(0F)-11	4250	1
7	H-HRU- (0F)-13	4675	1
8	H-HRU-(0F)-14	2720	1
9	H-HRU-(0F)-21,24	2210	2
10	H-HRU-(0F)-22	2550	1
11	H-HRU-(0F)-25,26	1700	2
12	H-HRU-(0F)-27,28	3060	2
13	H-HRU-(1F)-01	2550	1

14	H-HRU-(1F)-02,03,04,05,06,07,08,09	3060	8
15	H-HRU-(1F)-10	3910	1
16	H-HRU-(1F)-11	4675	1
17	H-HRU-(1F)-12,13,14,15,18	3400	5
18	H-HRU-(1F)-16	6035	1
19	H-HRU-(1F)-17	2550	1
20	H-HRU-(1F)-01,15	2550	2
21	H-HRU-(2F)-02,03,04,05,06,07	3060	6
22	H-HRU-(2F)-08	4930	1
23	H-HRU-(2F)-09,10,11,12,13,16	3400	6
24	H-HRU-(2F)-14	6035	1
25	H-HRU-(3F)-01	2210	1
26	H-HRU-(3F)-02	5440	1
27	H-HRU-(3F)-03,04,05,06,07,10	3400	6
28	H-HRU-(3F)-08	6035	1
29	H-HRU-(3F)-09	2550	1
30	H-HRU-(4F)-01	5440	1
31	H-HRU-(4F)-02,03,04,05,06,09	3400	6
32	H-HRU-(4F)-07	6035	1
33	H-HRU-(4F)-08	2550	1
34	H-HRU-(4F)-01,02	3910	2
35	H-HRU-(4F)-03,04,05	3400	3
36	H-HRU-(4F)-01,02	4360	2
			91

9.	**AV Units (For Mechanical Ventilation)**				
SL No.	**TAG No. & Location**	**Air Flow (CMH)**	**Qty.(Nos.)**	**Static Pressure (MM WG)**	**Purpose**
1	H-AV(-1F)-01	38500	1	25	Fresh air supply for CSSD & Laundry
2	H-AV(-1F)-02	48500	1	25	Fresh air supply Kitchen
3	H-AV(-1F)-03	27900	1	25	Fresh air supply Kitchen

4	H-AV(0F)-01,02	7361	2	25	Fresh air supply
5	H-AV-(1F)-01,02,03,04	7361	4	25	Fresh air supply
6	H-AV-(2F)-01,02,03,04,05,06	7361	6	25	Fresh air supply
7	H-AV-(3F)-01,02,03,04,05,06	7361	6	25	Fresh air supply
8	H-AV-(4F)-01,02,03,04,05,06	7361	6	25	Fresh air supply
9	H-AV-(5F)-01,02,03,04,05,06	7361	6	25	Fresh air supply
10	H-AV-(6F)-01,02,03,04,05,06	7361	6	25	Fresh air supply
11	H-AV-(T)-01,02	6240	2	25	Fresh air supply to HRUs
12	H-AV(T)-03	12900	1	25	Fresh air supply to HRUs
13	H-AV(T)-04	20000	1	25	Fresh air supply to HRUs
14	H-AV(T)-05	21700	1	25	Fresh air supply to HRUs
15	H-AV(T)-06,07	20900	2	25	Fresh air supply to HRUs
16	H-AV(T)-08	28000	1	25	Fresh air supply to HRUs
17	H-AV(T)-09	14100	1	25	Fresh air supply to HRUs
18	AY-AV-01	18250	1	25	Fresh air supply to Ayush
19	AY-AV-02	24200	1	25	Fresh air supply to Ayush
		Total	**50**		

Centrifugal Blower (For Mechanical Ventilation)					
SL No.	**TAG No. & Location**	**Air Flow (CMH)**	**Qty. (Nos.)**	**Static Pressure (MM WG)**	**Purpose**
1	H-CF(E)(-1F)-01,02	55000	2	40	Basement Exhaust
2	H-CF(E)(-1F)-03,04	49000	2	40	Kitchen Exhaust

Tube Axial Fan

SL No.	TAG No. & Location	Air Flow (CMH)	Qty. (Nos.)	Max. Speed (RPM)	Static Pressure (MM WG)	Purpose
1	H-TAFE 01-18*(-1 LEVEL)	61500	18	1440	10	Basement parking exhaust
2	H-TAFP-07 (TERRACE)	39300	1	1440	20	Lift lobby & lift well pressurization
3	H-TAFP-05,06 (TERRACE)	34700	2	1440	20	Lift lobby & lift well pressurization
4	H-TAFP-04 (TERRACE)	23200	1	1440	20	Lift lobby & lift well pressurization
5	H-TAFP-09,10 (TERRACE)	25500	2	1440	20	Lift lobby & lift well pressurization
6	H-TAFP-01 (TERRACE)	21000	1	1440	10	Lift well pressurization
7	H-TAFP-02 (TERRACE)	18560	1	1440	20	Lift lobby & lift well pressurization
8	H-TAFP-03,08 (TERRACE)	7000	2	1440	10	Lift well pressurization
9	NC-TAFP-01 (TERRACE)	11500	1	1440	20	Lift well pressurization
10	MC-TAFP-01-04 (TERRACE)	3500	4	1440	10	Lift well pressurization
11	NC-TAFP-01,02 (TERRACE)	3500	2	1440	10	Lift well pressurization
		Total	**35**			

* Fans with VFD (to normally operate at lower speed and in case of fire on maximum speed)

Propeller Fan (EF)

(Wall/window type exhaust fan with mounting, arm, impeller, motor with class "B" insulation, 220/240 volts single phase, 50 Hz, power supply)

SL No.	Dia (mm)	Quantity (Nos.)
1	250	322
2	315	92
3	400	29

4	450	4

INLINE FAN (ILFE)		
Sl. No.	Location	Quantity
1	HOSPITAL	236
2	MEDICAL COLLEGE	34
3	NURSING COLLEGE	5
4	AUDITORIUM	6
5	AYUSH	3

Ozone Generator for Cooling Towers		
1	**Colling Tower**	
	Total Water Circulation in Colling Tower	43500 LPM
	Ozone Generator Capacity	800 g/hr
	Connection	148 g/m^3
	Oxygen Generator Capacity	5.56 Nm^3/hr
	Oxygen flow	5.45m^3/hr
	Operating Pressure	0.98 bar abs
	Operating voltage	12000 V
	Operating frequency	50…… < 80
	Ozone module	1
	Chiller capacity	3 TR
	HT- air cooled transformer (17 KVA, 50-100 Hz)	1
	Power Characteristics	3 phase, 415 V, 50 Hz
	Type of ozone closing	Online through venturi injector
2	**AIR**	
	Type	Plate type
	Mounting	Duct mounted
	Control	Microprocessor based
	Rating/Operating voltage	10A, 220-240V, 100, 50Hz
	VOC CO_2, Ozone Sensor	Digital

	Capacity	7500CMH x 1 No., 2500 CMH x 3 Nos, 200 CMH x 1 No.

Ozone Injection System for maintaining indoor quality comprising of duct mounted ozone generator, VOC sensor, controller. Wiring between the Ozone monitor/switch and controller

SL No.	Location	Building	Floor Area (Sqm.)	AHU Capacity (CMH)
1	Body Wash Area	Medical College	1670	7500
2	Public toilet Zero Level	Hospital Building	72	2500
3	Public toilet first Level	Hospital Building	72	2500
4	Public toilet Second Level	Hospital Building	72	2500
5	Autopsy Hall	Morgue	31	2000

DUCT HEATER

SL.NO	LOCATION	QTY	REMARKS
1	MOTS	26	6/9 KW HEATER

NOTE: AMC must include electrical connections with control panel, sensor etc

Supply of UV Lamps

SL.NO	LOCATION	QTY	REMARKS
1	MOTs /ICU / Wards	120	20 /30 watts

Note: Replacement / repair of UV lamps including electrical fittings.

- Include HVAC System of low side DEF ward area which upgradation work in process also included in CMC.

Electrical Panel Details				
SL No.	**Location**	**Ele. Panel No**	**Capacity (Load)**	**REMARKS**
1	S- 4 (0 Level H.B)	ACDB-6	100 A	LTCMH-3
2	S- 4 OT (+1 Level H.B)	ACDB-6	100 A	LTCMH-3
3	S- 4 OT (+2 Level H.B)	ACDB-6	100 A	LTCMH-3
4	S- 4 OT (+3 Level H.B)	ACDB-6	100 A	LTCMH-3
5	S- 4 OT (+4 Level H.B)	ACDB-6	100 A	LTCMH-3
6	S- 3 LAB (0 Level H.B)	ACDB-5	100 A	LTCMH-2
7	S- 3 ICU (+1 Level H.B)	ACDB-5	100 A	LTCMH-2
8	S- 3 ICU (+2 Level H.B)	ACDB-5	100 A	LTCMH-2
9	S- 3 ICU (+3 Level H.B)	ACDB-5	100 A	LTCMH-2
10	S- 3 ICU (+4 Level H.B)	ACDB-5	100 A	LTCMH-2
11	S- 3 OT (+3 Level H.B)	ACDB-2	63 A	LTCMH-1
12	S- 3 OT (+4 Level H.B)	ACDB-2	63 A	LTCMH-1
13	S- 3 AV (0 Level H.B)	ACDB-4	63 A	LTCMH-8
14	S- 3 AV (+1 Level H.B)	ACDB-4	63 A	LTCMH-8
15	S- 3 AV (+2 Level H.B)	ACDB-4	63 A	LTCMH-8
16	S- 3 AV (+3 Level H.B)	ACDB-4	63 A	LTCMH-8
17	S- 3 AV (+4 Level H.B)	ACDB-4	63 A	LTCMH-8
18	S- 3 Dr. AHU (+5 Level H.B)	ACDB-4	63 A	LTCMH-1
19	S- 2 Terrace (+5 Level H.B)	ACDB-4	100 A	LTCMH-1
20	S- 2 Terrace (+5 Level H.B)	ACDB-2	100 A	LTCMH-1
21	S- 3 Dr. AHU (+5 Level H.B)	ACDB-2	63 A	LTCMH-2
22	S- 2 OPD (0 Level H.B)	ACDB-3	150 A	LTCMH-1

23	S- 2 OT (+1 Level H.B)	ACDB-3	63 A	LTCMH-1
24	S- 2 OT (+2 Level H.B)	ACDB-3	63 A	LTCMH-1
25	S- 2 OT (+3 Level H.B)	ACDB-3	63 A	LTCMH-1
26	S- 2 OT (+4 Level H.B)	ACDB-3	40 A	LTCMH-1
27	S- 2 OT, ICU (-1 Level H.B)	ACDB-2	150 A	LTCMH-1
28	S- 2 OPD, PUMP (-1 Level H.B)	ACDB-1	150 A	LTCMH-1
29	S- 2 OPD (0 Level H.B)	ACDB-2	100 A	LTCMH-7
30	S- 2 OPD (+1 Level H.B)	ACDB-2	100 A	LTCMH-7
31	S- 2 OPD (+2 Level H.B)	ACDB-2	63 A	LTCMH-7
32	S- 2 WARD (+5 Level H.B)	ACDB-2	25 A	LTCMH-7
33	S- 2 WARD (+5 Level H.B)	ACDB-3	25 A	LTCMH-7
34	S- 2 WARD (+6 Level H.B)	ACDB-2	25 A	LTCMH-7
35	S- 2 WARD (+6 Level H.B)	ACDB-3	25 A	LTCMH-7
36	S- 1 WARD (0 Level H.B)	ACDB-1	150 A	LTCMH-6
37	S- 1 OPD (+1 Level H.B)	ACDB-1	150 A	LTCMH-6
38	S- 1 OPD (+2 Level H.B)	ACDB-1	100 A	LTCMH-6
39	S- 1 OPD (+3 Level H.B)	ACDB-1	32 A	LTCMH-6
40	S- 1 AV (+4 Level H.B)	ACDB-1	25 A	LTCMH-6
41	S- 1 AV (+5 Level H.B)	ACDB-1	25 A	LTCMH-6
42	S- 1 AV (+6 Level H.B)	ACDB-1	25 A	LTCMH-6
NOTE: CMC must include all electrical connections, MCB, ACB, Contactor, Contactor, overload, wire, cable, sensor etc				

4. **TESTING:** All materials should be tested by the firm before installation at site under intimation to AIIMS Authority. Any material required for maintenance works and not mentioned in make list shall be supplied by the vendor after necessary approval from the EIC or his representative.

SCOPE OF WORK

1. Half yearly detailed parameters monitoring of chiller systems for **diagnostics, analysis** of chiller health and submit the report to customer.
2. To check the operation of **VFDS** of Chiller and Pump systems and if service/spares required, it is to be done by the vendor.

3. **Compressor oil** and oil filters for all the chiller are to change as based on the Lab report testing report like viscosity/ toxicity/ flammability which are the properties of compressor oil and as per the direction of engineer in charge.

4. Chiller should be serviced under the supervision of **OEM service Engineers** once in a year.
5. Periodical **software up-gradation** in chillers.
6. HVAC **Performance Assessment** of Chiller Plants with **an energy audit** once in a year.
7. Condenser and Evaporator **descaling** with copper friendly chemicals once in a year.
8. **Overhauling** of compressor/ chillers to be carried out yearly.
9. Repair and replacement of **Compressor, Motor, VFD, motherboard /microprocessor/ IGBT any type of controller, Display board** etc. of Chiller.

10. All spares, and components to be used/ replaced must be of Genuine and necessary documentary evidence are to be submitted, prior to fitment of same.

11. **Megger** all the motors & electrical panels during winter shutdown and the report of the same to be submitted to the competent authority.
12. **Empty cylinder and N-2 Gas** will be required while servicing the chiller, it will be in vendor's scope.
13. Check the functioning of Pressure and Temperature gauges and perform the **calibration** of these devices once a year and submit the report.
14. Insulation of all 5 Nos. of chiller must be carried out properly with **50 mm thick if insulation** will be required or damage.
15. Pre and Fine **filter replacement** of AHU as and when required will be under the scope of vendor.
16. PVC Fills of Cooling Tower need to be replaced after every 24 months or as per requirement.
17. If there is lack age in tube Perform eddy current testing & inspect the tubes of chillers (Evaporator and Condenser) and same replaced.
18. Approved **Chemical treatment** of the Cooling Tower water to make free from corrosion, deposits and biological growth. (Is dosing on a regular basis.) (Universal Water Chemicals Pvt Ltd, ALBATROSS FINE CHEM (P) LTD, NALCO)
19. Complete cleaning the whole parts of CT, Louvers drift eliminators, **nozzles and fill** once in a year. (Replacement of when fills and nozzles required)
20. **Operation and Comprehensive Maintenance of the Central Air- conditioning System** comprising of all the machineries & equipment installed in the AC Chiller Plant including Cooling Towers, Ozone Generator System, Condenser Pumps, Primary & Secondary Pumps, Tertiary

Pumps, VFD & Automation of Pumps, Air Handling Units, Precision AC Units (CSUs, Cassette AC units, FCUs, VOC sensors), Heat Recovery Units, Ventilation Fans (AV Units), Lift Pressurization System, Ozone Injection System, Duct Heaters with controllers etc. throughout the period of contract.

21. The contractor should keep the following materials in stock for urgent rectification of any kind of fault. The stock of such consumables will be checked before releasing the quarterly bill. The bill may be hold if inadequate or insufficient quantity of consumables are found in stock.

*Oil/Refrigerant gas, filters for chiller, pump, motor, etc. to be provided as and when required for proper functioning of HVAC system.

- Class 'O' Nitrile Rubber Insulation (25mm) – 250 Sq.mtr. (Make: -Armacell India Pvt. Ltd)
  - ❖ Class 'O' Nitrile Rubber Insulation (19mm) – 70 Sq.mtr. (Make: -Armacell India Pvt. Ltd)
  - ❖ Adhesive – minimum 150 Letters.
  - ❖ Fiber Glass Cloth (0.25mm, 1000mm x 1000mm) - 150 Sq.mtr
  - ❖ Fevicol SH, Synthetic Resin Adhesive – 100 Kg
  - ❖ G. I Ducting Sheet (24/ 22 Gauge) – 50 Sq. Mtr. (Make: - Tata, Jindal, sail)
  - ❖ TEFC Motor (3 Kw to 7.5 Kw) – 1 no. each
  - ❖ Different sizes of Motor Bearings – 1 no each
  - ❖ V-belt as per size – 100 pcs.
  - ❖ Grease/lubricants – 10 Kg.
  - ❖ If fail to maintain the above-mentioned stock penalty of 1000 rupee per day will be imposed.

Chillers:

- ❖ **Quarterly Preventive Maintenance**

1. Check the operating parameters of all the Chillers every 3 months and submit the report to E-I-C.
2. Review the previous months operating log records and alarm history.
3. To clean the Electrical panels and entire electrical connections every quarterly with air blower.
4. To check the system operating pressures and temperatures to ensure proper operating conditions of pumps.
5. Check for a sign of refrigerant leakages through standard procedure and rectify the leaks if found.
6. Check the operation of Expansion valves.
7. To check the operation of safety control/ microprocessor by conducting control test.
8. To check /calibrate flow switch for proper functioning.
9. Tightening the entire electrical contractor terminals.
10. To check the compressor motor starter and associated interlocks etc.
11. Inspect vibration eliminators for secureness and damage -physical inspection can be done and reported, however the working efficiency cannot be ascertained.
12. Test secureness of mounting points and tighten all major points.
13. Measuring operating voltage and ampere and record readings.
14. Inspect starter for signing of wear, arcing, overheating burns etc.
15. Inspect wiring and connections for signs of wear, arcing, overheating burns etc.
16. Check high compressor motor temperature.
17. Check leakage in compressor.
18. Check high pressure safety switch.
19. Verify the refrigerant charging.
20. Inspect unusual vibration & noise (if any).
21. Inspect moisture indicator for evidence of moisture.

22. Record the compressor suction and discharge pressure.
23. Record compressor oil pressure.
24. Check the condenser fans to ensure guards are in place and free of obstruction.
25. Check condenser fan motors and bearings.
26. Vendor to discuss with admin the plan for the quarterly maintenance before the PMS activity and service report after PMS.
27. Vendor shall give the inputs on the in-house maintenance.
28. Full range of monitoring, diagnostics, analysis, recommendations, optimization of your equipment as per requirement of OEM.
29. To provide and replace internal oil filters, as & when required during the contract period.
30. To provide and replace refrigerant driers, as & when required during the contract period.
31. To inspect oil quantity and replacing the same, if required.
32. Half yearly detailed parameters monitoring of chiller systems for diagnostics, analysis of chiller health and submit the report to EIC.
33. To check the operation of VFDS of Chiller and Pump systems and servicing for the same to be done by the vendor.
34. Chiller should be serviced under the supervision of OEM service Engineers towards proper execution of maintenance.
35. Periodical software up-gradation in chillers to be done.
36. Lubricate all the valves and bearings of Motor and Pumps.
37. Megger the motor and record readings and verify the operation of the electrical interlocks.

❖ **Annual Preventive Maintenance**

1. Replace Oil filters, refrigerant filter if required.
2. To clean all the contractors (Oil pump and Oil Heater) during annual visit.
3. Repairing of the leakages of Heat Exchangers as and when required.
4. To attend to the complaints as and when called for.
5. Replenish refrigerant as and when required basis.
6. To check the functioning of Pressure and Temperature gauges and perform the calibration of these devices once a year and submit the report to E-I-C.
7. Replacement of Pressure and Temperature gauges across the Chiller and condenser as when required.
8. Annual testing of compressor oil and replacement of oil as based on the Lab report.
9. Repair and replacement of VFDs.
10. Verify the working condition of all indicator /alarm lights and LED /LCD displays/Motherboards/EXV cards/ISM /CCM boards.
11. Test oil pressure safety device as required. Calibrate and record settings.
12. Test the operation of the chilled water pump start auxiliary Repair minor leaks as required E.g.: Valve packing, flare nuts. contacts, if applicable.
13. Lubricate all the valves and bearings of Motor and Pumps.
14. Verify the operation of Oil heaters.
15. Service Provider shall carry out the total maintenance work for chiller units in all respect for healthy operation of the units.
16. Inspect all Electrical Panels and Electrical devices using Thermal Scanning
17. Water balancing of condenser line in chiller plant once in a year and submit the report to E- I-C.
18. Servicing of VFD of Chiller once in a year.
19. Condenser and Evaporator descaling with copper friendly chemicals once in a year as instructed by the Engineer -in -Charge.

Note: Pump system includes Primary, Secondary, condenser pumps in Chiller plant and Tertiary Pumps in Hospital, Auditorium, Academic and Admin Block.

❖ SPECIALLY INCLUDED:

1. All parts will be provided under this contract including compressor oil, filters if required.
2. To attend to the complaints as when called for.
3. To provide any spare covered under the scope of offer.
4. Monitoring the equipment and health check up with the OEM special team once in a year.
5. Servicing of VFDs of Chillers including VFD cleaning, any parts replacement will be under the scope of Vendor.

❖ After handing over of the site, the following works are to be initiated by the vendor within two months:

1. Testing of Compressor oil of all chillers from NABL certified laboratory.
2. Pressure gauge and temperature gauges calibration to be done from NABL certified laboratory.

All condenser water line, Ozone generator line, makeup water and drain line is to be painted as per color codes when required as decided by engineer in charge

❖ **COOLING TOWERS**:

The following points should be considered during the CMC period.

Daily	Check water level
Daily	Check the oil level of gearbox
Weekly	Inspect basin for clogging
Monthly	Check for unusual noise/vibration in fan and fan guard, motor drive shaft and guard
Monthly	Inspect clogging in eliminator, fills and water basin
Monthly	Check bearing for noise
Monthly	Check fan blade looseness/crack
Monthly	Check water for oil and sludge in basin of cooling tower
Monthly	Clean the basin and replace water in basin
Monthly	Check and adjust float valve if required
Monthly	Check current values of motors
Monthly	Check for any leakages in gear reducer, water basin and float valve.
Monthly	Check water and sludge
Monthly	Check motor winding for over heating
Monthly	Drain cooling tower twice in a month along with condenser pipe line water.
Monthly	General cleaning for inside and outside
Quarterly	Check access door work properly
Quarterly	Check the staircase ladder corrosion
Quarterly	Check the distribution basin for corrosion, leaks and sediments
Quarterly	Check the drift eliminator louvers for scale build up
Quarterly	Check the gearbox for any oil leak
Quarterly	Check the fan blades for dirt/scale deposits and condition of fan cylinder
Quarterly	Check the mechanical parts of motor supports (cracks)
Quarterly	Check the distribution spray nozzles to ensure even distribution of water run over the fills
Quarterly	Check sludge in gear box
Quarterly	Check motor winding for overheating
Quarterly	Clean cooling tower inside and outside
Quarterly	Check and top up oil in gear
Quarterly	Cleaning of sump and check for any leakage
Quarterly	Clean fan & fan guard, motor shaft, gear reducer, eliminator, fills,

	water basin, float valve, control valves etc.
Quarterly	Rebalance of fan & fan guard, driveshaft & guards
Quarterly	Check insulation resistance
Quarterly	Clean nozzles if required
Quarterly	Check the water distribution system including nozzles.
Half yearly	Inspect keys, keyways and set screws of fan and fan guard, motor, drive shaft and guards. Inspect the general condition of fan and fan guard, motor, shaft, gear.

Half yearly	Reducer, fills, control valves, structural member, fan cylinder, stairs, ladders etc.
Half yearly	Tighten loose bolts of fan, fan guard, motor, shaft, if any
Half yearly	Check the working of control valve
Half yearly	Check completely open and close operation of float valves. Repair as required.
Half yearly	Clean all nozzles and replace if damaged
Half yearly	Check grease, clean and re-lubricate bearing of motor
Yearly	Tighten loose bolts of FRP, structure bolt connection and motor.
Yearly	Check and change nozzles, fills if required
Yearly	Complete cleaning the whole parts of CT (Louvers drift eliminators and fill surface)
Yearly	Replacement of net of pot strainer as and when required
Yearly	Replacement of motor terminal as and when required
Yearly	Replacement of motor bearing and seal of gear box as and when required

- SPECIALLY INCLUDED:
    1. Rewinding of Cooling Tower motor and replacement of its related accessories like terminal etc. Replacement of coupling, Spyder/bush and other related accessories as and when required.
    2. Replacement of seal of gearbox.
    3. Replacement of spray nozzles.
    4. Replacement of bearings
    5. Replacement of net of pot strainer.
    6. Replacement or Top-up of gear oil as and when required.
    7. Repair/Servicing of VFDs and VFD display will be under the scope of vendor.
    8. Repair of Gearbox of CT.
- Water quality such as PH, Hardness, and TDS as per OEM parameters of Chiller etc. for cooling tower and chilled water line shall be monitored on a weekly basis and submit a report every quarter.

❖ **Primary, Secondary, Tertiary and Condenser Pumps Common Maintenance schedule:**

Weekly	Check cable for Heating
Weekly	Check for any leakage from glands, seal or flange joints
Weekly	Check alignment of pumps, motor and rectify if required.
Weekly	Check coupling condition adjust and replace if required.
Weekly	Check the VFDS tightening of connection and their functioning.
Monthly	Check for any leak in motor and pump connections and rectify if required.
Monthly	Check bearing temperature with thermometer and hand test that bearing is not running excessively hot, then rectify.
Monthly	Check for leaks in isolation of valves, strainers and flexible connections.
Monthly	Clean pump exterior
Monthly	Check for any abnormal noise and vibrations during running, if noticed rectify it.
Quarterly	Servicing of VFDs of Pumps
Quarterly	Check pump lubrication as necessary.
Quarterly	Check and clean pump strainers and motor casings.
Quarterly	Check shaft or shaft sleeve for scoring
Quarterly	Tight and clean all electrical terminals, electricals connections, conduits, insulation, flexible connection.
Quarterly	Check and record motor running current, check motor terminals.
Half yearly	Check and clean all contact surfaces of circuit breaker, enclosure switches and push buttons
Yearly	Check condition of seals and bearings (adjust or replace if required)

❖ **Specially Included:**

1. Annual Heat varnishing of Pump.
2. Repair or replacement of VFDs as per the given make will be under the scope.
3. Replacement of bearings, gland, bush, seal and other accessories of pumps.
4. Repair or replacement of Couplings and associated accessories like bush/spider, PVC drain pipe etc.
5. Rewinding of Pump motor if burnt out.
6. Replacement of motor terminal in case of burnt out.
7. Half Yearly flow checking and submission of report to E-I-C.
8. Calibration and Replacement of Pressure gauges and thermometers for pumps as per instruction of EIC.
9. Quarterly service of Pump electrical panels, replacement of MCB/MCCB etc. under scope of Vendor.
10. Annual painting of pump to prevent it from rusting will be done.

❖ **Ozone Generator System:**

A. Ozone Generator:
   1. Corona cells cleaning to remove contaminates and nitric acid
   2. Clean high voltage terminals
   3. Replace / rebuild check valves
   4. Check and test safety components
   5. Replace oxygen /dry air feed gas filter
   6. Check and repair ozone leaks
   7. Check and record proper operating parameters.

B. Oxygen Concentrator:
   1. Replace air filters
   2. Rebuild/replace oxygen purge solenoid valve
   3. Rebuild /replace drain valve and moisture traps
   4. Refill/replace molecular sieve material
   5. Check for proper operation and function of all valves and purging.
   6. Check and record oxygen purity and dew point.

C. Air Dryer
   1. Replace air filters.
   2. Rebuild/replace solenoid valves.
   3. Replace air dryer desiccant.
   4. Check and record air dew point.

D. Air compressor:

   1. Clean or Replace air filters of the reciprocating compressor as and when required.
   2. Change compressor oil and filter.
   3. Replace belts, tubing, hoses as and when required.
   4. Check/replace air relief valve as necessary.

E. Water Chiller:
   1. Refrigerant replace or top up as and when required.
   2. Check Compressor, any fault replaces.
   3. Check valves and relief valves, if faulty replace.
   4. HP and LP cutoff check.
   5. Check and fill water.

F. Ozone /Water Mixing System
   1. Check the injection pump
   2. Repair/Replace check valves
   3. Replace Venturi.
   4. Calibration of pressure and temperature gauges.
   5. Check for proper air vent operation.

G. Pumps
   1. Check Booster and RC pump working.
   2. Check pumps motor functioning.
   3. Motor winding if required, be done.

❖ **Motor Control Centre (MCC) Panel (Chiller plant):**

	PREVENTIVE MAINTENANCE (FIRST VISIT)	**HALF YEARLY HEALTH CHECKUP (2ND VISIT)**
Equipment	Description of work	Description of work
415 V Air Circuit Breaker	Visual checking of ACB and physical checking of Breaker Housing	Visual checking of ACB and physical checking of Breaker Housing.
	Checking ACB spring charge electrically /manually	Checking ACB spring charge electrically /manually
	Checking ACB tripping through protection relay.	Checking ACB tripping through protection relay.
	Measurement of contact resistance (by mill volt drop test or with digital micro ohmmeter)	Measurement of contact resistance (by mill volt drop test or with digital micro ohmmeter)
	Physical checking of breakers and breaker operation test both manually and electrically (5 operations each)	Physical checking of breakers and breaker operation test both manually and electrically (5 operations each)
	Check fixed and moving contact & measurement of IR values	Check fixed and moving contact & measurement of IR values
	Check close & trip coil, check earth continuity	Check close & trip coil, check earth continuity
	Cleaning the breaker compartment thoroughly	Control circuit checking with auxiliary rotary switch checking
	Control circuit checking with auxiliary rotary switch checking	Lubricate the breakers if necessary
	Lubricate the breakers if necessary	Apply grease /petroleum jelly on moving required part .IR test with IR tester.
	Closing and opening timing test for all three poles	Check spring charging motor.
	Apply grease / petroleum jelly on movable required part .IR test with IR tester	Physical checking of breaker housing
	Check spring charging motor	No unplugged holes to be left and no foreign materials left over.
Control & Relay Panel with CT & PT	Check Auxiliary supply and control voltage	Check Auxiliary supply and control voltage
	Check control and power fuses / indication lamps	Check control and power fuses / indication lamps
	Check the space heater	Check the space heater
	Checking of control circuit & tighten the connections if any.	Checking of control circuit & tighten the connections if any.
	Current Transformer IR, Polarity, winding resistance, ratio and knee point for class 5P10 testing	

	Potential transformer IR, winding	

	resistance and ratio test.	
	Numerical Relay functional checking and testing.	
415 Volt Panel Bus -Bar, Cable Compartment & Breaker Compartment	Checking the space heater	Checking the space heater
	IR test of bus	IR test of bus
	Cleaning the breaker compartment thoroughly	Cleaning cable end termination and tighten if required
	Contact resistance test without opening of busbar insulation tape and compound	Cleaning of the cable chamber and outside panel
	Cleaning of the cable chamber and outside panel	Check the shutter operation
	Cleaning cable end termination and tighten if required	Check tightness of circuit & earth connections
	Apply grease /petroleum jelly on required parts	Alignment check of ACB for proper rack-in and rack out
	Check the shutter operation	Alignment of panel doors for Breaker chamber and Rear doors
	Check Tightness of circuit & earth connections	Check of limit switches, control cable conduit
	Check busbar support insulators	Condition of painted surfaces, condition of structure, door, wiring, Instruments, relays power isolating contacts and auxiliary isolating contacts.
	Alignment checks of ACB for proper rack in and rack out	Condition of all indicating instruments, cleaning and lubrication moving parts, tightening of nuts and bolts, checking of trolley wheels alignment during insertion
	Checking of limit switches, control cable conduit	
	Phase barrier setting in cable chamber	
415 Volt Panel Bus -Bar, Cable Compartment & Breaker Compartment	Condition of painted surfaces, condition of structure, door, wiring, instruments, relays, power isolating contacts and auxiliary isolating contacts.	
	Condition of all indicating instruments, Cleaning & Lubrication of moving parts, tighten of nuts & bolts, checking of trolley wheels alignment during insertion.	
	Alignment of panel doors for breaker chamber, rear door.	

- ❖ Changing of all required spares will be under scope of the contractor.

LOW SIDE SCOPE OF WORK

❖ Air Handling Unit (AHU):

The following points to be attended during the CMC period.

Weekly	Check for coil and filters if found faulty /damage, rectify or replace as required.
Weekly	Cleaning of AHU pre-filters
Weekly	Check for air and water leakage
Weekly	Check condensate drain for any blockage, clean if required
Weekly	Check drain pan for any blockage
Weekly	Check fan belt for correct tension and sign of wear and alignment of fan and motor.
Monthly	Inspect coils and clean.
Monthly	Check functioning of lights and limit switch interlocking and proper illumination
Monthly	Check for bearing of motor and blower and lubricate as required.
Monthly	Check for tightness of V-Belts and alignment of pulleys.
Monthly	Check looseness of any bolt in fan or casing and motor base etc.
Monthly	Check for vibration in blower and motors.
Monthly	Check access doors and hinges for easy operation
Monthly	Check cleanliness of the filters and clean.
Monthly	Check the associated damper flap movement and apply grease for the bearing housing, if required
Monthly	Check the function of Fire damper and its associated controls, grease the bearing housing if required.
Monthly	Check running current of motor.
Quarterly	Check/Add grease or lubricate to the fan shaft bearing, motor bearing, blower bearing.
Quarterly	Check the alignment of fan and motor, if necessary correct the same.
Quarterly	Inspect the condensate drain pan and ensure that it is clean and water freely flows to the drain.
Quarterly	Inspect the coils for cleanliness. Wash the coil with a low-pressure water hose or low-pressure air.
Quarterly	Observe all dampers for proper operation.
Quarterly	Check tightness of electrical connections.
Quarterly	Check flexible connections spool piece for leakage.
Quarterly	Check for condition of inlet strainers and clean
Half Yearly	Check in motors full load current, fan motor running current and tightness of terminals
Half Yearly	Check blower shaft, scroll, impeller and bearing
Yearly	Check and clean cooling coils & fins.
Yearly	Clean interiors and check for corrosion, check tightness of all sections
Yearly	Check anti-vibration mounting and flexible connections
Yearly	Check operation and condition of all electrical connections
Yearly	Check alignment of drive pulleys, adjust the same if required
Yearly	Combing of fins to be done after coil cleaning
Yearly	Check all bellows, replace if any crack /water leakage observed
Yearly	Check insulation resistance (Megger) of motor
Yearly	Checking all MCCB/MCB/Control panel, if required replace

- **<u>Pre and Fine filter replacement of AHU as and when required will be under the scope of vendor.</u>**

- **AHU supply and Exhaust starter panel:** The following points should be considered during the AMC period.

1. Monthly checking of electrical parameter and replacement of electrical components if required.
2. Defective spare parts replacement as per given makes.
3. Power DB terminal end.
4. Earthing connection etc.
5. Repair / replacement of Humidistat, Thermostat, Airstat etc.

- **Fan Coil Unit (FCU):** The following points should be attended during CMC period.

Weekly	Check the water leakage.
Weekly	Clean air filters.
Weekly	Check drain pan for any blockage.
Monthly	Clean filters and Y-strainers, if required.
Monthly	Check the fan belt tension, abnormal noise and rectify if required.
Monthly	Check any water leakage from unit.
Monthly	Inspect the condensate drain pan and ensure that it is clean and water flows freely.
Monthly	Check the condition of access door hinges for proper fixing.
Monthly	Check the unit is secured.
Monthly	Check the operation of inlet /outlet isolation valve.
Monthly	Check the looseness of any bolts in fan casing motor base etc.
Monthly	Check the associated damper movement and apply grease for bearings.
Quarterly	Inspect cooling coil and clean if required.
Quarterly	Clean strainers of FCU.
Half yearly	Check blower, motor unit etc. clean lubricate.
Half Yearly	Check and receive the vibration value and compare with recommended values.
Half yearly	Check tightness of electrical connections.
Half yearly	Add water and flush condensate drain pan, trap and drain line.
Half yearly	Check the condition of inlet strainers and clean if required.
Half yearly	Check the proper functioning of the 3 -way and 2-way valve.
Half yearly	Check the interconnection, copper piping, canvas and cooling coils.
Half yearly	Check full load current of motor.
Half yearly	Check the tightness of terminals of motor.
Half yearly	Check motor running current.
Yearly	Check blower, motor unit etc. clean and lubricate.
Yearly	Check electrical control and connection.
Yearly	Check and clean cooling coil with water, if necessary.
Yearly	Check 2/3-way valve for proper operation.
Yearly	Check insulation resistance (Megger) of motor.
Yearly	Check/ clean cooling coils and fins and repairing /replacement of canvas.

❖ **Cassette Unit:**

1. Quarterly checking and Servicing of all units.
2. Ball valve, actuator sensor, motor blowers, sensor and display rectification / replacement contractor scope of work.
3. Insulation as per requirement.

❖ **Ducting, grill and chilled water pipeline:**

1. Ducting and chilled water pipeline insulation is under contractor scope of work.
2. Diffuser, grill, damper and ducting cleaning half yearly.
3. Leakage repairing etc. contractor scope of work.
4. Fire actuator for fresh air damper contractor scope of work.

❖ **Fire Exhaust fan:**

1. Supply and Exhaust fan motor, fan blade etc. repairing / replacement contractor scope of work.
2. Quarterly fan cleaning and servicing.
3. Electrical parameters checking monthly.
4. Fire damper actuator and controller repairing, checking etc.

❖ **UV lamp:**

1. Lamp Checking.
2. Fault rectification/replacement if any.

❖ **Duct Heater:**

1. Heater checking /Servicing monthly.
2. Accessories checking /repairing /Replacement like contractor, thermostat, humidistat Airstat etc.
3. Fault repairing.
4. Electrical parameters checking.
5. Operation and maintenance including spares replacement will be under the scope of vendor.
6. Programming and upgrading of Duct Heater Controller is under contractor scope.

❖ **Heat Recovery Unit:**

1. Filter cleaning monthly.
2. Heat recovery wheel checking.
3. Fine and Pre-filter replacement after every 1 years.
4. Fresh air chamber cleaning monthly.
5. Coil Section chamber cleaning quarterly.
6. Electrical parameters checking monthly.
7. Belt tightening /replacement.
8. Pulley rectification if any.
9. Motor repairing /replacement.
10. Cooling coil repairing /Replacement.
11. Canvas repairing /replacement.
12. Actuator valves, ball valves, balancing, thermometers and pressure gauge monthly checking require and repairing /replacement.
13. Drain line checking monthly.
14. Limit switch and lamp checking and replacement as and when required.

Note: Low side operation, repairing and new replacement of above all machinery, equipment, field devices and installations should be comprehensibly under contractor scope of work.

The HVAC of lower side distributed in six main buildings i.e. Hospital Building, Academic Block, Admin Block, College of Nursing, Mortuary and Auditorium. The temperature and RH% maintenance both are under the contractor scope of work and the desire temperature maintain as per the end users' requirements. The contractor should provide the 24 hrs. operation and any call should be attended immediately after lodging complaint. The following are brief details that are to be maintained during the AMC period of contractor.

1. Temperature and humidity to be maintain.
2. Cassette unit checking, water leakage problem, noise problem, body concentration etc.
3. FCU checking, water leakage problem, noise problem, body concentration etc.
4. Thermostat set point change.
5. Condensation problem.
6. Water dripping from AHU.
7. HEPA filter set point change.
8. Supply and Exhaust fan switch on/off as per requirement.
9. HRW on/off as per requirement.
10. Insulation on ducting.
11. Insulation on chilled water pipeline, drain line and valve.
12. Call attendance register maintain.
13. Electrical fault, tripping and alarm etc.
14. Maintenance of temperature sensor, humidistat, air stat, Thermostat, VFD etc.
15. Checking and maintenance of diffuser, damper and grills in different wards, rooms etc.
16. If any items require to repair /replace, it should be done within 48 hours. If contractor should need more time to bring the item/repairing give the justification against it.

Checklist

Item Description	Period
MCC Panel parameters	Daily
Chiller Data	
Secondary Pump, Primary Pump & Cooling Tower Data	
AHU motor amp, canvas, terminal, belt, pulley, filter section, drain line, heater, UV lamp, limit switch and bulb, lamp, valve etc.	Fortnightly
FCU motor amp, canvas, terminal, belt, pulley, filter section, drain line, heater, UV lamp, limit switch and bulb, lamp, valve etc.	
Cassette unit amp, terminal, blower, filter section, drain line, valve etc.	Monthly
Starter panel for supply and exhaust amp, terminal, MCB, contactor, relay etc.	
Automation and VFD Panels checking etc.	
Functionally Checking of all types valve at branch line	Quarterly
Axial flow fan amp, terminal, actuator etc.	

Servicing

Item Description	Period
AHU/CSU/HRW filter cleaning	Monthly
AHU/CSU/ HRW fresh air chamber cleaning	
Cassette type unit blower and filter section servicing	Quarterly
FCU blower section and filter section servicing	
Actuator Servicing	
Strainer cleaning	
Cooling Tower Descaling and Basin cleaning	
Butter fly valve servicing	Half Yearly
Grill and diffuser cleaning	
VFD servicing	
Axial flow fan cleaning	
Duct cleaning	
AHU Coiling coil Descaling	Yearly
ACB in MCC panel servicing	
Chiller condenser/evaporator descaling	

1.0 PRE-TAKEOVER ACTIVITIES:

The successful bidder upon being selected for the work shall be issued with Letter of Acceptance (LOA). On receipt of LOA the successful bidder (hereafter referred to as 'the Contractor') shall start following mobilization activities at his own cost and complete within 30 days of issue of LOA. Thereafter, Work Order will be issued and the work will be commenced. The contractor shall take over the site within 15 days of issue of work order and signing the agreement.

1.1 ESTABLISHMENT:

1.1.1 The contractor shall set-up its establishment such as office & office facilities and initiate related activities for taking over the machine.

1.1.2 Nomination of Authorized representative.

The Contractor shall nominate his representative as Overall In-Charge for the Contract to ensure that all the obligations under the Contract are discharged smoothly. He shall be authorized and empowered by the Contractor on all matters concerning this Contract. In all such matters, the Contractor shall be bound by the communications, directions, requests and decisions issued in writing to / by the Contractor's Representative. The Contractor's representative will report to the AIIMS's designated officer (s) in matters relating to performance of the Services under the contract.

1.2 HANDING OVER AND TAKING OVER OF THE HVAC SYSTEM:

1.2.1 The handing over and taking over process includes joint inspection of the system, spares and store items by the representative of Purchaser and the Contractor. The joint inspection report shall contain the condition and status of the various components of machine, availability of spares and store items with specific comments on the detected visual abnormalities if any non-availability of immediate spares and store items.

These Report / documents are treated as base level document for effecting proper O & M planning and monitoring of the system. AIIMS will provide all drawings, manuals, past maintenance record and major failures, test records, log books etc. if available, to the Contractor.

1.2.2 Development of formats acceptable to the AIIMS during the term of the contract for reporting the feed-back, status of O&M activities and maintaining records & log books, etc. shall be the responsibility of the Contractor and shall be carried out in consultation with EIC.

1.2.3 The Contractor shall ensure that all the required personnel / resources are available at the time of the handover so as to be able to appropriately takeover and commence the intended services as per contract.

1.2.4 All equipment/ spare(s) taken for maintenance during the contract period shall be handed over back to AIIMS, Bhubaneswar in good working condition.

1.2.5 The doors of all the AHU/AV units and Tertiary Pumps have been provided with Lock & Key arrangement. One set of key will be handed over to the contractor on award of work for operation & maintenance of the system. The keys shall be kept by the contractor till expiry/termination of the contract and the same shall be handed over back to the department.

2.0 STANDARDS OF PERFORMANCE OF SERVICES:

The Services shall be performed in accordance with the express and implied standards including the following:

- The provisions of this Contract
- The Operating logic of Machines/ Equipment's
- Operation and Maintenance as per the O&M Manuals and taking into account the current status of the machine.

- All Directives Compliance with statutes, regulations as per clause.
- Quality Control in accordance with the requirement of ISO.
- Operate and Maintain the HVAC System in accordance with sound industrial practice, financial & administrative practice and ensuring that the System is to be transferred to AIIMS on expiry of the contract period in good working condition.

3.0 STAFF DEPLOYMENT:

3.0.1 Contractor's personnel

"Contractor's Personnel" means the Manager/Engineer/Supervisor, technicians and other personnel including labors to be provided and deployed by the Contractor for smooth

Operation & Maintenance of the HVAC System of AIIMS, Bhubaneswar. A total of **24 nos. of man-power** including supervisor and Technicians and their relivers thoroughly familiar with the type of machines/equipment's shall be deployed at the site for 24 hours 365 days basis as mentioned below:

MANPOWER ESTIMATION FOR ALL HVAC SYSTEM				
Designation	Qualification	Requirement	Salary	Remarks
Sr. Mechanic	B. Tech in Mechanical /Electrical with 2 years' Experience in HVAC machineries operation and maintenance **OR** Diploma in Mechanical /Electrical with 3 years' Experience or ITI with 5 years' experience	1		Highly Skilled
Fabricator cum Mechanic /Fitter	ITI In Mechanical /Electrical **OR** 12th Pass with 2 years' experience in Duct fabrication and insulation fixing	8		Skilled
Chiller plant Operator	ITI In Fitter OR 12th Pass with 2 years' experience in Pump /Chiller maintenance	8		Semiskilled
Helper	8th /10th Pass with 2-year Experience in HVAC field	7		Unskilled
	Total	**24**		

on the quantum of work and exigencies. All the manpower should be duly qualified/ experienced/ licensed (as required) and capable to handle Electrical/ Air-Conditioning works to the satisfaction of Engineer-in-charge. They should be fully conversant with relevant Indian Standards and should follow Electrical / Industrial safety norms/ practices. Each manpower has to pass the skill test of their concern field and if any person not found suitable/desirable by the Engineer-in-charge, shall be replaced by the contractor.

The Contractor's personnel shall be recruited and/or deputed by the contractor whose trade, grade, experience and qualification shall suit to the intended purpose.

The Contractor shall submit a consolidated list of contractor's personnel (O&M staff) indicating the name, date of birth, trade, grade, experience, qualification etc. for the O & M of the machine.

(a) The Contractor shall deploy adequate workmen such as operator, electrician, fitter, etc. so as to discharge all the obligations under the contract during the contract period. In emergency situations, the Contractor shall plan and make arrangements and bear all the costs associated with such arrangements for ensuring the presence of staff on-site for uninterrupted operation and maintenance of the Plant.

(b) The core personnel of the contractor including engineers so deployed must have adequate qualification & experience in their respective fields such as assembly and sub-assembly of the machines/equipment's including electrical circuit of electrical power/control system, PLC & VFD system (Automation System) etc. and are in a position to plan the maintenance requirement and rectify any defects developed during the operation of the system with minimum down time. The Contractor shall furnish the details of the man power deployment pattern in appropriate format for smooth O & M of the System to AIIMS within 15 days of issue of LOA for acceptance. Any modification to the originally accepted man power deployment pattern shall have to be got approved by the Contractor from AIIMS. Any deviation to deployment man power as per deployment pattern shall be recorded with justified reason failing which it may attract deduction from the bills of the Contractor to a reasonable extent as decided by the EIC.

During the continuance of the Contract, if the Contractor intends to induct new work men or make alterations in their grade, the Contractor shall communicate the same for appraisal of AIIMS.

(c) In case of breakdown maintenance / major repair or replacement maintenance work, where AIIMS reasonably determines that the Contractor has not employed the required resources, then AIIMS shall have the right to ask the Contractor to arrange for such resources.

(d) The Contractor shall be solely responsible for compliance to provisions of various labors, industrial, safety, any other laws applicable and all statutory obligations such as wages, allowances, compensations, EPF, Bonus, Gratuity, ESI, etc. relating to security of manpower deployed in AIIMS, Bhubaneswar. AIIMS shall have no liability in this regard. The latest Notification from the Office of the Chief Labour Commissioner (C), Ministry of Labour & Employment, Govt. of India shall be considered to determine the latest daily wage rates under different categories and any subsequent changes in statutory rates/changes as per Govt. orders constituting daily wages structure i.e. EPF, ESI etc. will be amended time to time by the contractor.

(e) The contractor shall be solely responsible for any accident/ medical/ health related liability/ compensation for the labour deployed by it at AIIMS, Bhubaneswar site. AIIMS shall have no liability in this regard.

(f) The normal deployment of Contractors' personnel shall be preferably on 8 hrs. basis per day. However, in exigencies, extended duty may be performed by the Contractors' personnel with appropriate cooperation by the Contractor to such compliance. Extended duty beyond the shift hour can be adopted only on special requirements and certainly not as a practice.

(g) The monthly wages of the workmen should be paid by the contractor by the 7th day of the succeeding month. The wage should be as per the minimum wage of Govt. of India notification from time to time. The contractor is advised to ensure that the payment is regularly credited to the bank account of the individual staff employed and pay-slips for respective payments are duly stamped and signed and issued regularly. Any delay beyond the schedule date of disbursement of salary to the workmen will invite penalty of Rs 100.00 per day per labour as decided by the EIC.

(h) If any man power from contractor side strike or show non-satisfaction due to payment issue or any other issue caused by the contractor, because of which the quality of work is hampered, strong action will be taken against the contractor as per the labour law & penalty as deemed fit shall be imposed.

(i) The staff employed by the contractor should be well behaved, polite, & courteous. The Contractor must disengage immediately the workmen in case of indiscipline, misconduct, negligence in duty, suppression of facts, deliberate mishandling of machine & equipment, sabotage, professional in-competency etc. and replace him with due intimation to AIIMS.

The manpower provided by the contractor sha1l not claim to become the employees of AIIMS, Bhubaneswar and there will be no Employee and Employer relationship between the manpower engaged by the Contractor for the deployment in AIIMS, Bhubaneswar site.

(j) Any damage caused by the workmen engaged by the Contractor to any machinery or equipment or installation of AIIMS due to negligence, ignorance or malafide intention shall be made good at the cost of the Contractor within a reasonable period of time acceptable to AIIMS, failing which the cost of the damages assessed by AIIMS shall be deducted from the bill of the Contractor or any money due to the Contractor.

(k) All individuals engaged in the performance of the Contractor's obligations under this contract shall be the employees of the Contractor and their working hours, rates of compensation and all other matters relating to their employment shall be determined solely by the Contractor in accordance with the applicable laws & regulations. The Contractor shall be solely responsible for employment policies that specify the requirements for staff working under him and such policies are to be consistent & in conjunction with the existing applicable labour laws and any government directives.

(l) The contractor shall provide uniform and Personal Protective Equipment (PPE) to their workmen once in every 6 months. The contractor shall take approval of uniform and PPEs form the EIC prior to issue to the workmen. The contractor shall issue Identity Cards to his workmen at his own cost and shall duly be intimate in writing the Engineer-In-Charge as and when there is any change.

3.0.2 During the period of contract, Watch & Ward and Housekeeping/cleanliness of the machines/equipment's shall be the responsibility of the Contractor at his own cost.

3.0.3 The Contractor shall observe all applicable regulations regarding safety of man and machine.

3.0.4 Authority for Access: No person other than Contractor's Personnel shall be allowed to operate the machines / equipment's except with the consent of AIIMS. The personnel of the

Contractor must possess proper identity card having their photographs. The Contractor shall grant access to all machine related data, records, reports and software that is being generated or used as part of its services for the plant for verification of AIIMS. All such data shall be the property of AIIMS and shall not be used by the Contractor for any purposes other than contractual requirements. Use of such information for any other purpose by the Contractor is strictly prohibited.

3.0.5 Routine interaction with AIIMS / his authorized representative regarding operation and maintenance of HVAC System shall be held in regular intervals as desired by AIIMS.

3.0.6 The O & M activities and also other activities (if any) shall be reviewed/discussed monthly in the site meeting to plan the operational & maintenance requirements which will be presided by Superintending Engineer / Executive Engineer. The Overall in-charge and Engineers of the Contractor shall attend this meeting.

3.0.7 The contractor shall notify AIIMS promptly regarding the occurrence of any emergency situation and take quick action to prevent any threatened damage, injury or loss to the machine or persons or property of AIIMS.

3.1 OPERATION:

3.1.1 The HVAC System will operate in 3 Shift basis (24 hrs. a day) & 365 days a year. The normal shift timings are as follows:

1st Shift - 0600 hrs. to 1400 hrs.
2nd Shift - 1400 hrs. to 2200 hrs.
3rd Shift - 2200 hrs. to 0600 hrs.

Arrival & Departure of staff should be well-planned to up-keep the operation and maintenance requirement in tact round the clock.

3.1.2 <u>Notice for Operation</u>:

In order to have safe and effective operation of the system, the Contractor must ensure that the system is operated in the most efficient manner without sacrificing any safety aspect and giving due regard to the health of the machine/equipment as well as the working personnel. For this, the operating personnel should be conversant with the operating logic and control philosophy of machines/equipment's and should be capable of recording the events / incidents during operation, noting the parameters & maintain the log books from time-to- time. Data such as load, important temperatures, pressures, levels etc. and other vital data observed during the operation shall be recorded.

3.1.3 Before and during operation of the system, observance of basic rules of operation, systematic and careful inspection of the individual parts of the system and equipment, checking the functions of all sub- assemblies and components in time are essential and to be ensured. The checks have to be made strictly in accordance with the check lists for the machine.

3.1.4 During operation, if any abnormality, defect / fault is noticed, the same shall be promptly communicated and remedial steps must be taken and the contractor shall place a suitable mechanism for rectification of problems so that delay in operation can be avoided.

3.1.5 In no case, running of system should be without proper & required no. of manpower. Similarly, operation of machines/equipment's shall not be carried out in abnormal condition (s) and by compromising with safety of machines by repeated & prolonged by-passing of safety devices, field devices, etc. Normally bypassing of field devices and safety devices is not permissible. However, the same if done for operational urgency should be made good promptly.

3.2 MAINTENANCE:

3.2.1 Maintenance primarily aims at keeping the system in efficient and reliable operating conditions, minimizing the downtime during operation so as to ensure their maximum availability and productivity.

3.2.2 The contractor's scope covers deployment of different maintenance teams as per requirement comprising of engineer/ supervisor, technicians, skilled / semiskilled workmen for efficient and effective preventive, predictive and corrective maintenance during the term of the contract.

3.2.3 The contractor shall carry out the maintenance such as (a) Preventive Maintenance comprising Planned maintenance or schedules maintenance, Condition based Maintenance and (b) Corrective Maintenance (Unscheduled Maintenance) comprising Breakdown Maintenance and Post fault maintenance for all the systems or subsystems.

3.2.4 The contractor shall prepare a routine maintenance plan and ensure timely maintenance of the system as per the plan. The maintenance planning shall be made on the basis of

- Preventive Maintenance Schedule
- Pending scheduled activities
- Observation made during execution of PMS
- Observation made during operation
- Condition monitoring
- Observation of AIIMS inspection
- Observation of OEM experts
- Any additional works /requirements

3.2.5 <u>Written Clearance:</u>

Where the maintenance period is expected to exceed 4 hrs., the Contractor must obtain written clearance, in a format acceptable to AIIMS, with due intimation to the EIC & the concerned Executive Engineer clearly indicating the nature of maintenance intended to be undertaken, expected time of commencement and completion.

3.2.6 For undertaking the major maintenance activities, planning shall have to be done by the Contractor in advance and in consultation with the Engineer-in-charge so as to make the best use of the idle period. The contractor shall properly plan for execution of maintenance activities during non-operational time of systems/equipment's.

3.2.7 <u>Periodic Inspection through OEM:</u>

The Contractor shall have to arrange for periodic inspection/servicing of Chillers, VFD System, Cooling Towers, Ozone Generator System, MCC Panels, Duct Heater Control

System etc. at least once in a year by the manufacturer's experts or their authorized experts to assess the health of the systems and make suitable recommendations to maintain the reliability of the system and for preparation of spares list. Also, as per the machine requirement, the Contractor shall arrange expert services for smooth & trouble-free operation. The cost of such inspections to be conducted by the experts shall have to be borne by the Contractor without any additional financial liability to the AIIMS. A copy of the inspection report shall be forwarded by the Contractor to the Engineer-in-charge and the concerned Executive Engineer. However, AIIMS reserves the right to have independent audits of the health of the systems of the machine at the cost of the Contractor and the contractor shall implement the findings of such audits in a mutually agreed schedule.

3.2.8 In the event of any breakdown maintenance, the Contractor shall put in its best efforts to promptly attend the breakdown and bring the machine/equipment to operating condition as early as possible. If necessary, the Contractor shall arrange and deploy more manpower to reduce the breakdown period. Also, if the Services of any expert are required, the Contractor shall arrange the same in the most expeditious manner at his own cost. After each breakdown, a joint inspection of the Contractor and the Purchaser shall be conducted to assess the cause of the failure. In the event the joint inspection report established that the failure is due to negligence on the part of the Contractor, all the costs of repair including the cost of materials, spares and the services shall be borne by the Contractor. In case it is established that the failure is not due to negligence on the part of the Contractor, the cost of the materials/spares consumed for the repair and the cost of the expert shall be reimbursed by AIIMS as per actual on production of supporting documents. However, no cost shall be provided for the manpower engaged to execute the work.

3.2.9 Minor painting works of machines/equipment's/pipe lines etc. for corrosion protection is included in scope of the Contractor. The Contractor shall promptly take remedial measures like mechanical chipping followed by application Zinc rich primer where rusting starts so that further deterioration can be avoided till the planned painting starts.

3.2.10 For repairing / Fabrication, Dismantling / assembly and overhauling of any component, AIIMS shall provide suitable space, if available, free of cost.

3.3 IMPROVEMENT PLANS:

R&D or future requirement reports in the field of HVAC by the experts of OEM should be submitted by the contractor after verified through Engineer-in-Charge on the yearly basis. During the course of the Contract, the Contractor may suggest improvement plans to make the HVAC system more reliable and efficient. AIIMS, BBSR shall examine such plans and if such plans are acceptable, AIIMS reserves the right to implement the plan either by engaging the Contractor or any other agency. In such cases, the Contractor shall extend all co-operations to AIIMS for implementation of any modification plan with least interruption to the site activities. In case the Contractor is entrusted with the modification work, the Contractor shall have to carry out the work without discontinuing the on-going operational and maintenance contractual obligations in any manner.

3.4 SUPPLY OF T&P and CONSUMABLES:

The Contractor shall provide all T&P, testing equipment, ladder(s), scaffolding, High Pressure Jet Pump, Vacuum Pump, Chain Pulley Blocks, High pressure hose for DA and

oxygen, cutting set with regulator, welding cable, holder, screen, scraping & cleaning hand tools, all consumables such as DA & Oxygen, different types of electrodes, oil seals, V- belts, Adhesive, Insulation material, G.I sheets for ducts, bolts & nuts, cotton cloth/wastes/rags, hydraulic oil seals, O-rings, gaskets, end – connectors, nipples & ferules, all types of Filters (Oil & Air), C-shine/ drain cleaning material, fuses, capacitors, Indication Lamps, Connectors, PVC tape, EPR tape, Ampere tape, Electrical Cleaning agent (CRC Lectra Clean , CRC 226 etc.), Diesel, Petrol, lubricants and Chemicals for chemical dosing of Cooling Tower Water etc. necessary for smooth O & M of the HVAC System. The contractor shall give warranty that the material supplied shall be new and free from all defects and faults and shall be highest grade and consistent with the established and generally accepted standards for the materials of the type ordered and shall perform in full conformity with the specifications and drawings. The contractor shall be responsible for any defects that may develop under the conditions provided by the contractor and under proper use, arising from faulty materials, design or workmanship such as corrosion of equipment, inadequate contact protection, deficiencies in circuit design and or otherwise and shall remedy such defects at his own cost.

3.5 MAINTENANCE OF RECORDS:

Following Documents / Records are to be maintained at site by the contractor as per detailed in Appendix – G of CPWD specification for HVAC works 2024:

1. Daily Log Book
2. Complain Log Book
3. Chiller reading Log Book
4. Site Materials Account Register
5. Equipment History Card/ checklist
6. Power Failure & Chiller Tripping Record
7. Chiller Plant check list
8. Cooling Tower Check List
9. Tertiary Pump Check Lisl
10. AHU, HRU, AV, Exhaust/ Fresh Air, FCU, Cassette AC, Ozone Generator & VOC Sensor Check List.
11. Pressure Gauge and Temperature Meter calibration test once per year
12. Maintenance Schedule Activity
13. Attendance Register
14. Breakdown Report
15. Maintenance Report:
    - Monthly availability of HVAC system as per the format acceptable to AIIMS.
    - Report on house -keeping & safety as per the format acceptable to AIIMS.
    - Spares Consumption Report as per the format acceptable to AIIMS.
    - Satisfactory compliance to site order or site instruction of AIIMS.
    - Air balancing and water balancing should be done in the alternate quarter and the report of the same should be submitted after the verification of the concerned JE.

The format of the above Log Books and reports for reporting shall be prepared and implemented as per the requirement of the Engineer-in-charge.

3.6 SAFETY:

All equipment shall be complete with approved safety devices wherever a potential hazard to personnel exists and with provision for safe access for personnel to and around equipment for operation and maintenance functions. Special care shall be taken to ensure against entry of rats, lizards and other creeping reptiles which may create electrical short circuit inside live equipment.

Safety aspects in work places have to be followed as per relevant Standards & Codes. Any accident or damage to life of man and machinery shall be treated as negligence & it is purely the responsibility of the contractor. AIIMS, Bhubaneswar will not be responsible for any accidents or damages. Safety of all the staff under this contract is the sole responsibility of the contractor. There shall be no liability on AIIMS, Bhubaneswar to pay any compensation arising out of any labour dispute or accident etc. at site.

SPECIALLY INCLUDED:

1. **Inspection and rectification report for all above points (For Low Side and High Side) Should be submitted to Engineer in Charge.**
2. **All Spare parts/consumables will be provided by the vendor under this contract for Low side as well as of high side. No extra Shall be paid for the same.**
3. **All Low Side Equipment's Should be in Running Condition Failing Which 1% per month recovery will be made.**
4. **The minor items, instrumentation & control, field devices, control panels etc. which are accessories but not listed in Annexure., are part of the complete systems covered under comprehensive maintenance.**
5. **HEPA validation of system should be done every six month and as per ISO 14644 standards (NABH guideline).**

ADDITIONAL CONDITIONS OF CONTRACT

1.0 SITE VISIT:

1.1 AIIMS, Bhubaneswar may conduct joint site visit, pre-bid and/or post-bid meeting. The bidder should attend the site visit as well as the pre-bid meetings, if any.

1.2 Bidders are strongly advised to inspect and assess the site conditions and its surroundings and satisfy themselves before submitting their bids. A site visit shall be conducted for interested eligible bidders. The prospective bidders are advised to depute their technical experts with authorization letter to visit, assess and examine the conditions, requirements, nature & quantum of work and locations of installations which may be necessary for the purpose of bidding and submit a realistic offer for the successful execution of the work. The successful bidder may be required to take up initial repair works if any after finalization of tender. In general, they 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/she inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed.

1.3 Submission of a bid by a bidder implies that he has read the Tender document and has made himself aware of the terms & conditions and scope and specifications of the work to be done and local conditions and other factors having a bearing on the execution of work.

2.0 BID PRICES:

2.1 The Bidder shall indicate on the prescribed Bill of Quantity, the landed prices of all the goods and services at AIIMS, Bhubaneswar in accordance with terms & conditions and scope of work of Tender Document. It must include all the taxes, duties, fees, all types of Cess, insurance, transportation, packing, forwarding, administrative charges/ contractor overhead and profit amount and all other incidentals required for execution of the contract in all respect. Variation in taxes due to change in Govt. Regulations only shall be considered, provided such change has taken place within the period from 28 days prior to the last date of bid submission to the original completion date of the Contract.

2.2 The rates quoted by the contractor shall be net so as to include all requirements described in the contract document and no claim whatsoever due to fluctuations in the price of the material and labour charges.

2.3 The Contractor may arrange way bill at his cost for inter-state transportation of all the materials required for successful execution of the work.

3.0 PERIOD OF CONTRACT:

The period of contract shall be 2 year from the date of commencement of work. The contract can further be extended at the discretion of the AIIMS, Bhubaneswar and upon mutual consent of both the parties, subject to satisfactory performance by the contractor with same terms & conditions and rate for 3nd year of the contract.

4.0 DATE OF COMMENCEMENT & COMPLETION OF WORK:

The Contractor shall commence the work within 07 (Seven) days from the date of issue of LoA. However, the Contractor has to furnish the Security Deposit within this period so as to enable issue of work order prior to commencing the work at site.

5.0 PAYMENT TERMS:

The Contractor shall submit bill in duplicate at the end of every quarter. The pre-receipted bill in duplicate along with all supporting documents as required under this contract and prescribed check list shall be submitted to the Engineer-In-charge. The payment shall be made as below.

Payment shall be made on quarterly basis provided that the bill submitted should be in order in all respect and the Statutory deductions of GST and other taxes applicable shall be recovered/paid from the contractor's bill as per Govt. of India /AIIMS rules.

Vendor shall submit following documents along with the bill for payment:

(a) Complain reports duly signed by the user and duly verified by the JE concerned.
(b) Service reports of PMS work during the Quarter verified by the JE concerned.
(c) Wage, EPF & ESI Statement of workmen during the Quarter.
(d) Material Test Certificate
(e) Warranty/Guarantee Certificate
(f) Colour Photos for Executed work on glossary paper
(g) Testing & Commissioning Certificate.
(h) GST return up to date Voucher.
(i) Bank Account Details.
(j) The documentary evidence in support of payment made to his fellow workmen for the period duly certified by the EIC.
(k) An Undertaking that all statutory rules and regulation have been followed.

6.0 DEDUCTION ON DEFAULT:

Availability factor of HVAC system as per norms on demand, maintaining the rated capacity, up keeping of proper cleanliness/housekeeping, carrying out proper maintenance, attending breakdown in time (rectification of faults) and following the safety aspects, statutory norms and regulations are the essence of this contract. Therefore, the Contractor shall meet the performance parameters / norms / obligations pursuant to the contract. Failure on the part of the Contractor to comply with the requirements shall attract a deduction on account of underperformance as mentioned below:

Minor Breakdown: On getting the minor breakdown complain or failure of the HVAC system, Contractor's maintenance team must respond within **3 Hours** and carry out necessary repairs to restore the system in normal condition, falling which penalty of **₹1,000 per day up to 10% of the CMC contract value** will be recovered from the contractor.

Major Breakdown: On getting the major breakdown complaint or failure of the HVAC system, Contractor's maintenance team must respond within **3 Hours** and inform the concern AE/JE immediately regarding the complaint. After joint inspection with concern AE/JE, the complaint must be sorted out within **72 Hours** or **timeline given by the concern AE/JE according the nature of complaint**, the necessary repairs must be carried out to restore the system in normal condition, falling which penalty of **₹3,000 per day up to 10% of the CMC contract value** will be recovered from the contractor.

For any major repair or over-hauling work, the contractor shall inform in advance to the Executive Engineer before 72 hours of starting the work.

6.1 DEDUCTION FOR POOR OPERATION and/or MAINTENANCE:

Poor Operation and / or Maintenance shall mean

i) Operation of machine(s)/equipment(s)s in abnormal condition(s).
ii) Compromising in safety of machines by repeated & prolonged by-passing of safety devices, field devices, and monitoring/controlling devices during operation.
iii) Tampering of Operational limits of the machine/equipment.
iv) Consecutive failure of any system / equipment or any component / sub-system i.e. Repetition of a fault for the same reason.
v) Maintenance not following the sound engineering practice.
vi) Non-availability of any component in position which are available at the time of taking over the machine.
vii) Nonworking of any system continuously without information to AIIMS.
viii) Non-execution of deficiencies communicated by AIIMS in a mutually agreed period.
ix) Non-attendance and non-completion of breakdown in time agreed between AIIMS and the Contractor.
x) Unauthorized absent of any manpower or a workman found sleeping/ casual sitting during working hours or not following the Institute's general guidelines etc.

xi) Any Tools & Tackles or the stock of material not found sufficiently and hampering the day to day work.

Operation and /or Maintenance of machine/equipment shall be treated under poor Operation and / or Maintenance if there is occurrence of any one situation or combination of situations as mentioned above as per the EIC. This will attract a deduction from the bill. The deduction to be made is as under.

6.2 DEDUCTION DUE TO POOR CLEANLINESS / HOUSEKEEPING:

The machine/equipment is to be kept in a reasonably cleaned condition. In case the level of cleanliness/housekeeping is not up-to the satisfaction of EIC during inspection, the contractor shall initiate immediate steps to undertake cleaning/housekeeping work in a time bound manner failing which the Contractor shall be liable for a deduction of ₹***.5,000/-*** for the 1st violation and ₹***.10,000/-*** for the 2nd violation from the quarterly bill. In the event the Contractor is found to be negligent in house-keeping continuously, it may result in termination of the Contract.

6.3 DEDUCTION FOR NON-PROVISION OF PERIODIC INSPECTION:

A deduction of ₹ ***2,50,000/-*** only shall be made from the Contractor's bill for not providing expert **(OEM)** services in time **(i.e. In Every year)** as specified (Periodic Inspection) of Scope of Work on each occasion for Chillers side Equipment's.

PENALTY FOR INADEQUATE PLANNING FOR CRITICAL SPARES:

In case of requirement of any material/component for which AIIMS has not been informed in advance, the Contractor shall arrange the material /component and make the machine/equipment functional at his own cost. If AIIMS arranges the material / component, the cost will be recovered from the monthly bill of the Contractor. In addition, the downtime of machine/equipment will be considered towards non-availability of machine/equipment and deduction as decided by the EIC shall be effected Running Bills the bills.

Following registers are to be maintained by the contractor:

a) **Service/Breakdown Register**: The serviced/maintained/repaired has to be recorded in register and endorsement from End User Department has to be obtained in register.
b) **Complaint Register**: All complaints received with respect to Hospital under this contract are to be recorded with time and date of receipt, as and when complaints are received from end user departments.
c) **Spare Register:** All spares are to be recorded in the register. Spares taken outside the premises also to be recorded with serial number of spare and in and out date and time.
d) **Tool and Tackle Register**: All tools and tackles used for the effective maintenance of Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Bhubaneswar HVAC System are to be recorded in the register.
e) **Attendance Register:** All the workers attendance should be maintained day wise in the register & submitted the same in the EE (AC & R) office for cross checking.
f) **Wages Register:** Details of payment to workmen indicating the wages, EPF, ESI etc. to be maintained by the contractor & counter signed by the EIC.

Technical Bid (Eligibility Criteria)

The scanned copies of the following mandatory documents to be uploaded on e-Tendering Portal in the following format.

Sl. No.	Details/Particulars	Uploaded (Yes/No)	Page No.
(A)	Performa For Earnest Money Deposit Declaration		
(B)	Annexures `A to E' duly filled in and signed with stamp.		
(C)	Certificates of Work Experience & Completion Certificate of Similar Work from Client not below the Rank of Executive Engineer or equivalent, as mentioned in Eligibility Criteria.		
(D)	Certificate of Registration for GST and acknowledgement, up to date filed return if required.		
(E)	Copies of PAN Sheets		
(F)	Copies of Balance Sheets		
(G)	Copies of ESI Registration		
(H)	Copies of EPF Registration. (Latest submitted challan copy)		
(I)	Each page of the e-tender documents should be duly signed with seal otherwise the bid shall become invalid.		

FORM OF PERFOMANCE SECURITY (BANK GUARANTEE)

1. In consideration of the 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 not withstanding 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).

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

8. 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)

Format for Agreement
(To be made on Rs 100/- Judicial Stamp Paper)

This Agreement is made at.....on this.....day of.....2025.

BETWEEN

Executive Director, AIIMS, Bhubaneswar represented through Superintending Engineer, 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 (NIT No.....)

(here in after refer red to as "**Tender/Bid**") and intends to award, under laid down organizational procedure, contract for: **Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Bhubaneswar** 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 aforesaid 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.

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 processor 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)/Contract(s) will not use improperly, (for the purpose of competition or personal gain), or passion 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 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.

3. **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: Penalty: On getting the minor breakdown complain or failure of the HVAC system, Contractor's maintenance team must response within the **3 Hours** and carry out necessary repairs to restore the system in normal condition, falling which penalty of **₹1,000 per day up to 10% of the CMC contract value** will be recovered from the contractor. For non-compliance or partial compliance of satisfactory execution of items, the Engineer-in-charge reserves his rights to levy compensation in accordance with the scale of non-conformity and the period for which this non-conformity continues.

Article – 8: Payment

a. Quarterly 100% of RA Bill (Quarterly Running Bills) payment will be released after due certification of Bill by Engineering-in-charge or his representative **on submission of original tax invoice along with all necessary documents by the vendor after verification of work done by the vendor, in the same period, from AIIMS Authorities.**

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.

d. All the work shall be completed within **02 year** 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.

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

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

Article - 9: 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 unmade.
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 intensions.
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 - 10: 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:

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

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

Place:
Dated:

PROFORMA OF SCHEDULES

SCHEDULE 'A'

Schedule of quantities: - (ENCLOSED)

SCHEDULE 'B'

Schedule of materials to be issued to the contractor. **NIL**

SCHEDULE 'C'

Tools and plants to be hired to the contractor. **Deleted**

SCHEDULE 'D'

Additional Condition and specifications: Enclosed.

SCHEDULE 'E'

(Reference to General conditions of Contract.)

Name of Work: **"Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Bhubaneswar (2025-27)"**

Estimated Cost of Work: **₹ 4,89,90,462/-**

(a) Performance Guarantee = **05% of Tendered Value**

(b) Security Deposit = **2.5% of Final Value**

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 = no limit

Definitions			**See below**
2 (v)	Engineer-in-Charge		Executive Engineer (AC&R) AIIMS, Bhubaneswar
2(viii)	Accepting Authority		Executive Director AIIMS, Bhubaneswar
2(x)	Percentage on cost of materials and labour to cover all over heads and profit	:	15%
2(xi)	Standard Schedule of Rates	-	CPWD Schedule of Rates (E &M)2022 at Delhi with up to date correction slips
9(ii)	Standard AIIMS Contract Form	-	GCC for CPWD maintenance Works - 2023 as amended and up to and including correction slip

(i) Time allowed for submission of Performance guarantee, Program Chart (Time & Progress) and applicable Labour Licenses, Registration with EPFO, ESIC & BOCW Welfare Board or proof of applying thereof from the date of issue of letter of acceptance : 07 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	:	**2 Year (From the date of commencement of work).**
Time of start of work:		Within Seven days after issue of work order.
Number of days from the date of issue of letter of acceptance for reckoning date of start	:	**07 Days**
Authority to decide fair & reasonable extension of time for completion: of work		**Superintending Engineer, AIIMS, Bhubaneswar**

Clause – 6A.

Whether Clause 6A shall be applicable	:	**Yes**

Clause – 7A.

Whether clause 7A shall be applicable	:	Y**es.**

Clause – 10B(ii).

Whether Clause 10B(ii) shall be applicable	:	**No.**
Clause – 10C.	:	**Applicable only for Extended period in case the contract period extends after 24 months. (Note: - If the Contract Completion period is under 24 months the clause deemed to be deleted)**
Clause – 10CA.	:	**Not applicable**.
Clause – 11	:	**CPWD General Specifications for Electrical works Part 1 Internal 2023,** General Specifications for Heating, Ventilation & Air-Conditioning (HVAC)2024

Clause – 16.

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

Clause – 25.

Settlement of dispute & Arbitration: : i) **Conciliator-** Dispute Redressal Committee (DRC) to be constituted by **Executive Director, AIIMS, Bhubaneswar.**

ii) Arbitrator appointing authority- **Executive Director, AIIMS, Bhubaneswar.**

iii) Place of Arbitration- Bhubaneswar.

Clause – 32. 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 clause36(i)**	
							(Figures)	***(Words)***
For Agreement amount up to Rs150 Lakhs	(a)	Graduate Engineer **OR** Diploma Engineer	Elect. /Mechanical	Principal Technical representative	02 years for Graduate Engineer/ 05 years for Diploma Engineer	1	*Rs 25000/-*	*Rs Twenty-Five Thousand only*

The bidder during the "**Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Bhubaneswar"** period has to engage 24 Nos: of Manpower as per the details mentioned below failing which paneity of Rs. **1200/day/manpower** will be deducted from quarterly Bill.

Schedule of Quantities

NIT No.: AIIMS/BBSR/ENGG/ACR/2025/NIT/43

Name of Work: **Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Bhubaneswar (2025-27).**

Sl. No.	Description of Item	Unit	Qty	Rate per unit (Rs)	Amount (Incl. of GST)
1	Comprehensive Operation and maintenance of High side and Low side of Central HVAC system (Capacity - 725 TR x 5, 4 Running + 1Standby).	Months	24	2006508.42	4,81,56,202.00
2	HEPA Filter Validation of Operation Theatres	Half-yearly	4	208565.00	8,34,260.00
			Total Amount		**4,89,90,462.00/-**
Total Amount (Including of GST) in Rs.					**4,89,90,462.00/-**

PERFORMA FOR QUOTING RATE

NAME OF WORK- Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Bhubaneswar (2025-27).	
e NIT No- AIIMS/BBSR/ENGG/ACR/2025/NIT/43	
ESTIMATE COST PUT TO TENDER- 4,89,90,462.00/-	
NAME OF CONTRACTOR-	
Operation & Comprehensive Maintenance Contract of High side and Low side of HVAC System at AIIMS, Bhubaneswar.	**4,89,90,462.00/-**
Percentage above/ below the total Estimated Cost	
% in figure	
Total Amount (including GST) (Rs.)	
Total Amount (in words)	

NOTE: -

1. LMR = To be read as OEM 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.
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
7. 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.
8. In case of non-availability of material of approved make, prior approval from Engineer-In-Charge shall be obtained for another make.
9. The rates quoted should be inclusive of GST as applicable.
10. The rate quoted by the contractor for the manpower component should be as per the payment of minimum wages act of central government. The bid will not be considered if the contractor's quoted price for manpower is less than the rates as per the minimum wages category mentioned by the ministry of labour, Government of India.
11. Before deputing the required man power recommended C.V should be submitted & approved by E.I.C for consideration.

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

Name: _____

Business Address: _____ Signature of the Bidder: -

Date : _____

Place: Bhubaneswar Seal of the Bidder _____.

Annexure 'F'

PERFORMA FOR EARNEST MONEY DEPOSIT DECLARATION

Whereas, I/We…… (Name of Agency) have submitted bids for…… (Name of the Work)

I/We hereby submit following declaration in lieu of submitting Earnest Money Deposit-

1. If after opening of the tender, I/We withdraw or modify my/our bid during the period of validity of tender (including extended validity of the tender) specified in the tender documents.

Or

2. If I/we are L-1 after opening of the bid, I/We fail to submit original EMD, original Notarized Affidavit at Annexure D and E mentioned in this e-NIT before the deadline defined in the tender document.

My/Our bid shall be rejected and I/We shall be suspended for One year and shall not be eligible to bid for AIIMS Tender from the date of issue of the suspension order till the completion of suspension period.

Name:
_____
_____
_____

(Full signature of the bidder with Firm's seal)

Place: _____ Dated: _____