ALL INDIA INSTITUTE OF MEDICAL SCIENCES, RAIPUR

OFFICE OF
THE SUPERINTENDING ENGINEER
PROJECT CELL AIIMS, RAIPUR

NOTICE INVITING e-TENDER

N.I.T. NO. : **03/SE/AIIMS/RPR/2021-22**

NAME OF WORK: -"**CONSTRUCTION OF RENAL TRANSPLANT WARD, NEPHROLOGY AND UROLOGY OPD AT C C1 BLOCK, AIIMS RAIPUR."**

ESTIMATED COST: **Rs. 12238649.00**

EARNEST MONEY: **EMD Declaration Form (As Per Annexure-H)**

CONTRACT PERIOD: **120 Days**

Type of work: Construction/~~Maintenance~~

E-sign by Rajesh Singh
Superintending Engineer
AIIMS, Raipur

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Name of Work: - **"CONSTRUCTION OF RENAL TRANSPLANT WARD, NEPHROLOGY AND UROLOGY OPD AT C C1 BLOCK, AIIMS RAIPUR."**

INSTRUCTIONS FOR ONLINE BID SUBMISSION

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

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

REGISTRATION:

1) Bidders are required to enrol on the e-Procurement module of the Central Public Procurement Portal (URL: https://eprocure.gov.in/eprocure/app) by clicking on the link "Online bidder Enrolment" on the CPP Portal which is free of charge.
2) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
3) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify/nCode /eMudhra etc.), with their profile.
5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
6) Bidder then logs in to the site through the secured log-in by entering their user ID/password and the password of the DSC/e-Token.

SEARCHING FOR TENDER DOCUMENTS:

1) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
2) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS:

1) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
2) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the Number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
3) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
4) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" or "Other Important Documents" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

SUBMISSION OF BIDS:

1) Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
3) ~~Bidder has to select the payment option as "offline" to pay the tender fee / EMD as applicable and enter details of the instrument.~~
4) ~~Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.~~
5) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.

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

8) The documents being submitted by the bidders would be encrypted using PKI encryption all techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128-bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key.

9) Further this key is subjected to asymmetric encryption using buyers/bid opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.

10) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.

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

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

ASSISTANCE TO BIDDERS:

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

2) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk number 0120-4200462, 0120-4001002.

3) For any further assistance, please contact to the office of Superintending Engineer, AIIMS Raipur.

ALL INDIA INSTITUTE OF MEDICAL SCIENCES, RAIPUR

NOTICE INVITING e-TENDER

(a)	Name of Work	**"CONSTRUCTION OF RENAL TRANSPLANT WARD, NEPHROLOGY AND UROLOGY OPD AT C C1 BLOCK, AIIMS RAIPUR."**
(b)	Tender No.	**03/SE/AIIMS/RPR/2021-22**
(c)	Contract Period	**120 Days**
(d)	Estimated Cost	**Rs. 12238649.00**
(e)	Earnest Money Deposit (**Mandatory to submit EMD Declaration Form.**)	**EMD Declaration Form (As Per Annexure-H)**
(f)	Performance Guarantee	3% of Tendered value.
(g)	Security Deposit	2.5% of the Tendered Value.
(h)	Tender documents may be seen on	AIIMS web site www.aiimsraipur.edu.inand CPPP site https://eprocure.gov.in/eprocure/app
(j)	Last Date &Time of Submission	By 01-11-2021 UP TO 11:00 Hours through online.
(k)	Date & Time for opening of Technical & financial Bid	On 02-11-2021 at 11:30 Hours.

1. The indenting Bidder must read the Terms &conditions carefully. He/ She should only submit bid if consider himself/herself eligible and bidder in possession of all the documents required.
2. Information and Instructions for bidders posted on website shall from part of bid document.
3. The Bid documents consisting of specifications, the schedule of quantities of various types of items to be executed and the set of terms &conditions of the contract to be complied with and other necessary documents can be seen and downloaded from websitewww.aiimsraipur.edu.inOrhttps://eprocure.gov.in/eprocure/app.

E-sign by Rajesh Singh
Superintending Engineer
AIIMS, Raipur

FORM-6

INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR e-TENDERING

The Superintending Engineer, AIIMS, Raipur on behalf of Director, AIIMS, Raipur invites online Percentage Rate/ ~~Item Rate~~ bids in two bid system (Technical Eligibility & Financial) from Registered contractors of appropriate list of CPWD, M.E.S., BSNL (Construction Wing) Railway, P.W.D. for the following work(s):-

Sl. No.	Description	Details
(a)	NIT No.	**03/SE/AIIMS/RPR/2021-22**
(b)	Name of Work:	**"CONSTRUCTION OF RENAL TRANSPLANT WARD, NEPHROLOGY AND UROLOGY OPD AT C C1 BLOCK, AIIMS RAIPUR."**
(c)	Estimated Cost	**Rs. 12238649.00**
(d)	Earnest Money (**Mandatory to submit EMD Declaration Form)**	**EMD Declaration Form (As Per Annexure-H)**
(e)	Period of Completion	**120 Days**
(f)	Last Date &Time of Submission	By 01-11-2021 UP TO 11:00 Hours through online.
(g)	Date & Time for opening of Technical & financial Bid	On 02-11-2021 at 11:30 Hours.

1. The intending bidder must read the terms and conditions of Tender document carefully. Bidder may submit bid having all required documents.
2. Intending bidders shall have to register at CPPP portal to participate in the tendering process. For details kindly visit websitehttp://eprocure.gov.in/eprocure/app or In case the bidder requires any elucidation regarding the tender documents, may contact to the office of Project Cell, AIIMS Raipur before the opening of tender date.
3. For e-tendering of this tender, downloaded from AIIMS Raipur website and Central Public Procurement Portal (CPPP) e-Procurement website.
4. The intending bidders must have valid class-III digital signature to submit the bid. **Manual bid shall not be accepted in any circumstance**. The complete bidding process is online bidding; Bidder should have valid digital Signature Certificate (DSC) for online submission of bids.
5. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website http:// eprocure.gov.in/eprocure/appfree of cost.
6. The bid can be submitted only after uploading the mandatory scanned documents up to 100 dpi Copies of eligibility documents ~~and EMD~~ as specified 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. Bidders must ensure to quote rate of each item. 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).After submission of the bid online the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified.
8. 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 (need not re-enter rate of all the items) but before last time and date of submission of bid as notified.
9. Financial bids shall be opened online only for bidders for whom ~~EMD and other~~ uploaded documents are found in order and who are found to be eligible to bid for work. On opening date, the bidder can log in and see the bid opening process. After opening of bid he/she will receive the competitor bid sheets.
10. If the bidder is found ineligible after opening of technical cum eligibility, bid shall become invalid.
11. ~~**The Bidders shall have to submit original instrument for EMD (EMD released of any work will not be accepted again if earlier submitted in any case) before the last date of opening of TECHNICAL Cum Eligibility Bid to the office of Tender Opening Authority. The bid security is to remain valid for a period of 45 (forty five) days beyond the final bid validity period. Bid security will be refunded to the successful bidder on receipt of a performance security. Bid securities of the unsuccessful bidders should be returned at the earliest after L1 decided by Committee of AIIMS Raipur.**~~
12. The Technical cum Eligibility bid shall be opened first on due date and time as mentioned above. Opening of financial bids of contractors qualifying the eligibility shall be opened at a later date.
13. The department reserves the right to reject any prospective application without assigning any reason and to restrict the list of qualified contractors to any number deemed suitable by it, if too many bids are received satisfying the laid down criteria.
14. **Performance Guarantee**: The successful contractor will be required to furnish a Performance guarantee of **3% (Three Percent)** of Tendered Value after receiving notification of award in the form of **an account payee demand draft, fixed deposit receipt from a commercial bank, bank guarantee issued/ confirmed from any of the commercial bank in India** in the name of the "All India Institute of Medical Sciences, Raipur" which shall be kept valid for a period of Six (06) months beyond completion of all the contractual obligations. The Performance Guarantee can be forfeited in the event of any breach or negligence or non–observance of any condition of contract or for unsatisfactory performance or non-observance of any condition of the contract. Performance Security will be released after successful completion of work under the contract. In case the contractor fails to deposit the said performance guarantee within the period including the extended period if any, the ~~Earnest Money deposited~~ by the contractor shall be forfeited automatically without any notice to the contractor. The ~~earnest money deposited~~ along with tender shall be returned after receiving the aforesaid performance guarantee.

15. Sources and Verification of Bank Guarantees

Bank Guarantee for ~~Bid Security (EMD) or~~ Performance Guarantee (Security Deposit) should be irrevocable and operative Bank Guarantee (BG) as per format enclosed in the Bid Document and should be issued by a Scheduled Commercial (i.e. Indian or Foreign Banks included in the Second Schedule of Reserve Bank of India Act, 1934 excluding Co-operative banks or Regional Rural Banks). In case of foreign bidders or in case of GTE, if Bank Guarantee is from a foreign bank branch situated outside India, the Bank Guarantee must be issued through any of the Scheduled Commercial Bank. In case BG is issued directly by a bank outside India, it should be executed on letter Head of the Bank and should be advised and made payable through their Indian Branch/Corresponding Bank in India. The Issuing Bank should also state the name and designation of the next Higher Authority of the Officials who have issued the Bank Guarantee. Bank guarantees submitted by the tenderers/ contractors as ~~EMD~~/ performance securities need to be immediately verified from the issuing bank **before acceptance.** There may not be any need to get the Bank Guarantee vetted from legal/ finance authority if it is in the specified format. Guidelines for verification of BGs submitted by the bidders/ contractors against ~~EMD~~/ performance security/ advance payments and for various other purposes are as follows:

i) BG shall be as per the prescribed formats;

ii) The BG contains the name, designation and code number of the Bank officer(s) signing the guarantee(s);

iii) The address and other details (including telephone no.) of the controlling officer of the bank are obtained from the branch of the bank issuing the BG (this should be included in all BGs). The confirmation from the issuing branch of the bank is obtained in writing though registered post/ speed post/ courier. The bank should be advised to confirm the issuance of the BGs specifically quoting the letter of Procurement Entity on the printed official letterhead of the bank indicating address and other details (including telephone nos.) of the bank and the name, designation and code number of the officer(s) confirming the issuance of the BG; Pending receipt of confirmation as above, confirmation can also be obtained with the help of responsible officer at the field office, which is close to the issuing branch of the bank, who should personally obtain the confirmation from issuing branch of the bank and forward the confirmation report to the concerned procurement entity.

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

17. The Tender paper/documents can be seen/downloaded from Official website & submitted through Online or Site.

18. The competent authority on behalf of the Director, AIIMS, Raipur 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.

19. 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.

20. The Competent Authority, The **Engineer-In-Charge,** 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.

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

22. The bid for the works shall remain open for acceptance for a period of **120 Days** from the date of opening of bids.

23. 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, GCC, 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.

24. Eligibility of Bidder

(a) All eligible bidders meeting the eligibility can participate in the tender. The applicant should be a private or government-owned legal entity;

(b) For package size exceeding certain values [say - Rs. 10 (ten) Crore], Joint Ventures may be allowed. Maximum number of partners in Joint Ventures shall be limited (say – three). In case of Joint Ventures, all the partners shall be jointly and severally liable for the successful completion of the work;

(c) A firm that has been engaged by Ministry/Department to provide consultancy services for the preparation or implementation of a project, and any of its affiliates (associates, Subsidiary, Joint Ventures partner), shall not be eligible for subsequently providing goods or works (other than a continuation of the firm's earlier consultancy services) for the same project;

(d) A firm determined non-performing by the Procuring Entity shall not be eligible to bid during the period so determined;

(e) The bidder must not have in his employment:

a) The near relations (defined as first blood relations, and their spouses, of the bidder or the bidder's spouse) of persons involved in decision making in the procurement.

b) Without Government permission, any person who retired as gazetted officer within the last two years of the rank and from the departments.

(f) Goods and services Tax (GST)

(g) **Eligibility Criteria for specialized work :-**

Specialized work in the BOQ will be done by the Specialize agency as per following criteria:

The Applicant should have Experience of having successfully completed works in any govt. semi Govt. & PSU's during the last (07) Seven Years ending previous day of last date of submission of tender:

(a) Three similar completed works **each** costing not less than the amount equal to 40% of estimated BOQ specialized work,

Or

(b) Two similar completed works **each** costing not less than the amount equal to 60% of the estimated BOQ specialized work,

Or

(c) One similar completed work of aggregate cost not less than the amount equal to 80% of the estimated BOQ specialized work.

Similar work means "Building Construction."

25. Signing of bid document :

a) If the bidder is an individual, the bid shall be signed by him above his full type written name and current address.

b) If the bidder is a proprietary firm, the bid shall be signed by the proprietor above his full type written name and the full name of his firm with its current address.

c) If the bidder is a firm in partnership, the bid shall be signed by all the partners of the firm above their full type written names and current addresses, or, alternatively, by a partner holding power of attorney for the firm. In the later case a certified copy of the power of attorney should accompany the application. In both cases a certified copy of the partnership deed and current address of all the partners of the firm should accompany the application.

d) If the bidder is a limited company or a corporation, the bid shall be signed by a duly authorized person holding power of attorney for signing the application accompanied by a copy of the power of attorney. The bidder should also furnish a copy of the Memorandum of Articles of Association duly attested by a Public Notary.

26. In the bid documents the word / sentence shall be read as under :-

(i) President of India – Director, AIIMS, Raipur

(ii) The terms Director General includes CPM/ADG region/ SDG PR Special Director General / Additional Director General and CPM/ Chief Engineer of the Zone - The terms Director General includes Director/Superintending Engineer/Superintending Engineer, AIIMS, Raipur.

(iii) CPWD – AIIMS, Raipur or vice versa.

27. Any dispute or difference arising out of this contract or in connection therewith which cannot be amicably settled between the parties shall be finally settled under the rules of council of Arbitration of India by one or more arbitrator appointed in accordance with the said rules. The arbitration shall take place at Raipur (Chhattisgarh) and the resulting award shall be final and binding upon the parties and shall be in lieu of any other remedy.

List of Mandatory Documents to be filled in by the bidders in various forms to be scanned and uploaded within the period of bid submission

1	~~**EMD** in the form of **an account payee demand draft, fixed deposit receipt from a commercial bank, bank guarantee issued/ confirmed from any of the commercial bank in India** in the name of the "All India Institute of Medical Sciences, Raipur"~~
2	Enlistment Order
3	Letter of transmittal (Annexure-A)
4	Vendor Details as per (Annexure-B)
5	Structure & Organization (Annexure-C)
6	Declaration by Bidder (Annexure-D)
7	Acknowledgement & Acceptance Letter (Annexure-F)
8	Consent Letter(Annexure-G)
9	EMD Declaration Form (Annexure-H)
10	GST Registration Certificate
11	Registration Certificate of EPFO & ESIC
12	Experience certificate as per Sr. No. 24 of page no. 10

E-sign by Rajesh Singh
Superintending Engineer
AIIMS, Raipur

(Annexure-A)

LETTER OF TRANSMITTAL

From:

To

The Superintending Engineer,

Project Cell, AIIMS, Raipur (C.G.)

Subject: Submission of bids for the work of

Sir,

Having examined the details given in the bid document for the above work, I/we hereby submit the relevant information.

1. I/we hereby certify that all the statement made and information supplied in the enclosed forms A to H and accompanying statement are true and correct.
2. I/we have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
3. I/we authorize Engineer-In-Charge or his representative to approach individuals, employers, firms and corporation to verify our competence and general reputation.

Certificate: It is certified that the information given in the enclosed eligibility bid are correct. It is also certified that I / We shall be liable to be debarred, disqualified / cancellation of enlistment in case any information furnished by me / us is found to be incorrect.

Enclosures:

Signature(s) of Bidder(s)

Date of submission: Seal of bidder

Annexure-B

FORM FOR DETAILED INFORMATION BY BIDDER (Vendor Details)

1.	Name of the Bidder	
2.	Permanent Account No (PAN)	
3.	Particulars of Bank Account	
	a) Name of the Bank	
	b) Name of the Branch	
	c) Branch Code	
	d) Address	
	e) City Name	
	f) Telephone No	
4.	Legal status of the bidder (attach copies of original document defining the legal status)	
	a) An Individual	
	b)A proprietary firm	
	c)A firm in partnership	
	d) A limited company or Corporation	
5.	GST Registration Certificate No	
6.	Valid Email ID of the Bidder	
7.	Complete Postal Address of the bidder	

(Authorized Signature of the Bidder with Seal)

Annexure-C

STRUCTURE & ORGANISATION

1. (a) Name

   (b) Address of the bidder

2. (a)Telephone no.

   (b) Telex no.

   (c) Fax no.

   (d) E-mail

3. Legal status of the bidder (attach copies of original document defining the legal status)
   (a) An Individual
   (b) A proprietary firm
   (c) A firm in partnership
   (d) A limited company or Corporation

4. Particulars of registration with various Government Bodies if any (attach attested photocopy)

Organization/Place of registration	**Registration No.**
1.	
2.	
3.	

5. Names and titles of Directors & Officers with designation to be concerned with this work.

Sig & Seal of Bidder(s)

Annexure-D

DECLARATION

It is to certify that:

1) I/We agree with the terms and conditions of it and understood that it will form part of the agreement.

2) I hereby certify that none of my Relative(s) are employed in AIIMS Raipur, Chhattisgarh. 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".

3) I/We undertake and confirm that eligible Work(s) has/have not been got executed through another contractor on back to back basis. Further, it is stated that, if such a violation comes to the notice of Department, than I/We shall be debarred for bidding in AIIMS in future forever. Also, if such a violation comes to the notice of AIIMS, Raipur before date of start of work, the Engineer-In-Charge shall be free to forfeit the entire amount of ~~Earnest Money Deposit~~/Performance Guarantee.

4) I / We have signed (with stamp) uploaded documents of the tender before submitting the same.

5) All the information and documents given/ uploaded for bids are true.

6) I / We have submitted the EMD Declaration Form.

7) I / We have provided our e-Mail id for any communication in this regard.

8) I have read carefully & understood the important instructions to the all bidders.

Date……. Contractor

E-Mail: _____ (Sign with Seal)

Annexure-E

INTEGRITY PACT

To,

Sub: NIT No. **02/SE/AIIMS/RPR/2021-22 for the work of "CONSTRUCTION OF RENAL TRANSPLANT WARD, NEPHROLOGY AND UROLOGY OPD AT C C1 BLOCK, AIIMS RAIPUR."**

Dear Sir,

It is here by declared that AIIMS is committed to follow the principle of transparency, equity and competitiveness in public procurement.

The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender / bid documents, failing which the tenderer / bidder will stand disqualified from the tendering process and the bid of the bidder would be summarily rejected.

This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall be deemed as acceptance and signing of the Integrity Agreement on behalf of the AIIMS Raipur.

Yours faithfully,

E-sign by Rajesh Singh
Superintending Engineer
AIIMS, Raipur

(Annexure-F)

ACKNOWLEDGEMENT & ACCEPTANCE LETTER

To,

The Superintending Engineer,

Project Cell, AIIMS Raipur

Sub: Submission of Tender for the work **"CONSTRUCTION OF RENAL TRANSPLANT WARD, NEPHROLOGY AND UROLOGY OPD AT C C1 BLOCK, AIIMS RAIPUR."**

Dear Sir,

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

I / We agree that the Notice Inviting e-Tender is an invitation to offer made on the condition that I/We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by AIIMS Raipur. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the enclosed Integrity Agreement.

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

Yours Faithfully

(Duly authorized signatory of the Bidder)

(Annexure-G)

CONSENT LETTER

I/We hereby give my/ our consent to work as contractor till the completion of work and I/we will be responsible for execution of work only by skilled persons in the field of **related work** as per satisfaction of Engineer-In-Charge.

I/We will produce computerized measurement sheets of work before covering hidden work / job and other exposed works in time as per clause 6A otherwise measurement will be recorded by the representative of Engineer-In-Charge which will be bound to me and I/We am/are agree to made recovery of amount as per **clause 32** of GCC for each running and final bill for not producing measurement and bill. Final measurement with bill will be produced by me/us within one month after completion date otherwise representative of Engineer-In-Charge will prepare the same which will be acceptable and bound to me/us and no any claim in this regard will be made by me/us.

I/We will provide all invoices and related test certificates of materials as required by E-In-C. All Analysis of rates for Extra, Substitute, Deviation items etc. will be produced by me/us in consultation with representative of Engineer-In- Charge on time for getting approval from Competent Authority of AIIMS before execution of work or otherwise the same will be prepared by the department and will be bound to me/us.

I/We will maintain all the registers etc. as mentioned in General Condition of Contract for workers and employees. The registers will be presented to Engineer In-charge or his authorized representative for verification from time to time.

I/we will also engage suitable and skill Engineer(s) for the work as per condition of work.

I further certify that the above particulars pertaining to me are correct.

I/We will produce all uploaded documents in original for physical verification before issue of Letter of Acceptance or / and as demanded by Engineer-In Charge before the payment.

I/We will submit "No Claim Certificate" in the approved format in company letter head after receiving final bill payment.

Signature of contractor with Seal

(Annexure-H)

EMD Declaration Form

Date:

To,

Superintending Engineer,

All India Institute of Medical Sciences Raipur (C.G)

Ref: 03/SE/AIIMS/RPR/2021-22.

Dear Sir,

I/we accept that I/We may be disqualified/debarred from bidding for any contract with you for a period of one year from the date of notification, if I am /We are in a breach of any obligation under the bid conditions, because

I/We

a) have withdrawn/modified/amended from the tender, my/our Bid during the period of bid validity specified in the NIT; or
b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity.

i. fail or reuse to execute the contract, if required, or

ii. fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders

The validity of this declaration will remain till the announcement of the name of the successful Bidder & if, I

am/we are not the successful Bidder.

Yours faithfully,

(Signature of Bidder with seal)

Place: ……

To be signed by the bidder and same signatory competent / authorized to sign the relevant contract on behalf of AIIMS Raipur.

INTEGRITY AGREEMENT

This Integrity Agreement is made at ..... on this..... day of..... 2019

BETWEEN

AIIMS Raipur through Superintending Engineer,.....,
(Name of Division)
AIIMS, ..., (Hereinafter referred as the
(Address of Division)
'**Principal / Owner**', which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

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 successors and permitted assigns)

Preamble

WHEREAS the Principal /Owner has floated the e-Tender (**NIT No. 03/SE/AIIMS/RPR/2021-22**) (hereinafter referred to as "**Tender/Bid**") and intends to award, under laid down organizational procedure, contract for **"CONSTRUCTION OF RENAL TRANSPLANT WARD, NEPHROLOGY AND UROLOGY OPD AT C C1 BLOCK, AIIMS RAIPUR."**Hereinafter referred to as the "**Contract**".

AND WHEREAS the Principal / Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as "**Integrity Pact**" or "**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, in consideration 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 commits itself to take all measures necessary to prevent corruption and to observe the following principles:

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

   (b) The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.

   (c) The Principal / Owner shall endeavor to exclude from the Tender process any person, whose conduct in the past has been of biased nature.

2. If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC) / Prevention of Corruption Act, 1988 (PC 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 standards, 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 whatsoever during the Tender process or during the execution of the Contract.

   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.

   b) 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 pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

c) 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 participate 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.

d) The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose (with each tender as per Performa enclosed) 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 befall 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 be forever or for a limited period as decided by the Principal/Owner.

2) **Forfeiture of ~~EMD~~ / Performance Guarantee / Security Deposit**:
If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or 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 ~~Earnest Money Deposit~~, 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 Indian Penal code (IPC)/Prevention of Corruption 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 5 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 process or action can be taken for banning of business dealings/ holding 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/SUBCONTRACTORS

1) The Bidder(s) / Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity 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 into 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

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

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 Raipur.

ARTICLE 7- OTHER PROVISIONS

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

ARTICLE 8 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 / Contract documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity 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:

ALL INDIA INSTITUTE OF MEDICAL SCIENCE RAIPUR
Percentage Rate Tender/ ~~Item Rate Tender~~ & Contract for Works

Tender for the work of: **"CONSTRUCTION OF RENAL TRANSPLANT WARD, NEPHROLOGY AND UROLOGY OPD AT C C1 BLOCK, AIIMS RAIPUR."**

e- T E N D E R

I/We have read and examined the notice inviting tender, schedule, A,B,C,D,E & F, 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.

I/We hereby tender for the execution of the work specified for the AIIMS Raipur within the time specified in Schedule 'F', viz., schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of contract and with such materials as are provided for, by, and in respects in accordance with, such conditions so far as applicable.

I/We agree to keep the tender open for **Ninety (90) days** from the due date of opening of financial bid and not to make any modification in its terms and conditions.

~~A sum of **Rs. 40,800.00** is hereby forwarded in Receipt Treasury Challan/ Deposit at Call Receipt of a Scheduled Bank/ Fixed Deposit Receipts of a Scheduled Bank/ Demand Draft of a Scheduled Bank/ Bank Guarantee issued by a Scheduled Bank as earnest money. A copy of the earnest money in Receipt Treasury Challan/ Deposit at Call Receipt of a Scheduled Bank/ Fixed Deposit Receipts of a Scheduled Bank/ Demand Draft of a Scheduled Bank/ Bank Guarantee issued by a Scheduled Bank is submitted with tender. If~~ I/We, fail to furnish the prescribed performance guarantee within prescribed tender, I/we agree that the said President of India or his successors, in office shall without prejudice to any other right or remedy, be at liberty enforce action as per the EMD Declaration submitted by me/us. Further, if I/We fail to commence work as specified, I/We agree that President of India or his 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 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 General Conditions of Contracts (CPWD). Further, I/we agree that in case of forfeiture of ~~earnest money or~~ performance guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.

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 Department, then I/we shall be debarred for tendering in AIIMS Raipur in future forever. Also, if such a violation comes to the notice of Department before date of start of work, The

Engineer – in – Charge shall be free to forfeit the entire amount of ~~Earnest Money Deposited~~ / 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 therefrom 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#
Postal Address#

Witness : #
Address: #
Occupation: #

e-Mail id#

To be filled in by the contractor/witness as applicable

ACCEPTANCE

The above tender (as modified vide letters mentioned hereunder) is accepted by me for and on behalf of the AIIMS Raipur for a sum of ₹. _____*_____

(Rupees_____*_____)

The letters referred to below shall form part of this contract Agreement:-

a) _____*

b) _____

c) _____

For & on behalf of the AIIMS Raipur.

Signature.....

Dated.....

Designation.....

GENERAL PARTICULAR CONDITIONS OF CONTRACT

1. Name of Work: **"CONSTRUCTION OF RENAL TRANSPLANT WARD, NEPHROLOGY AND UROLOGY OPD AT C C1 BLOCK, AIIMS RAIPUR."**
2. For all items of **Civil/Electrical/AC&R/Horticulture**;- CPWD specifications with up to date correction slips up to receipt of tender shall be followed. For the items which are not covered under CPWD Specifications; B.I.S. specifications shall apply. In this regard the decision of Engineer-in- charge shall be final.
3. 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.
4. Unless otherwise specified, the agreement rates for all items of work of the schedule of quantities are for all heights, depths, leads and lifts involved in the execution of work.
5. Other agencies working at site will also simultaneously execute the work entrusted to them and the contractor shall offer necessary co-operation wherever required to other agencies.
6. 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 shell be paid.
7. 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 enacted by Central Govt. as well as State Govt.
8. All melba/rubbish/silt/waste, garbage etc. generated due to any operation from buildings/houses/hostels and other open spaces whatsoever shall be disposed off on daily basis by the contractor to the specified common disposal point. After the collection of full truck load of the said Melba (approx. 4.5 cubic meters), the same shall be disposed off by the contractor to the authorized municipal dumping ground and nothing extra shall be paid on this account. In case of non- removal/disposal in the specified period, the same would be disposed at risk & cost of contractor.
9. 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.
10. No claims of the labours shall be entertained by the Department including that of providing employment, regularization of services etc.
11. All required register will be issued by Engineer-in-Charge/Superintending Engineer duly marked in chronological order but the contractor will have to arrange all such registers/stationery etc. Nothing extra shall be paid on this account.
12. The contractor shall have registration with Employee's Provident Fund commissioner and Employee's state Insurance Corporation for safe guarding interest of his workmen. He shall obtain all other necessary approvals from statutory bodies as per law in vogue.
13. All T&P, scaffoldings, ladders/Hydra etc, instruments/meters for maintenance, consumable and Contingent Articles required for execution of the work shall be arranged by the contractor.
14. 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. The department shall 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 department. Also Contractor is responsible to the damage caused to any man/material other that his team during execution and AIIMS will not be responsible for that.
15. Contractor shall be fully responsible for any damages caused to govt. property or allotter's

property by his or his labor in carrying out the work and shall be rectified by the contractor at his own cost.

16. GST and other Taxes as applicable shall be recovered/ paid from the contractor's bill as per Govt. of India/AIIMS Rules.
17. 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.
18. The agency shall restore back the premises and other articles provided by the department to the department at the time of closure of the contract.
19. 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) Additional specifications and special conditions, if any.

    (c) Contract clauses of General conditions of contract for Central P.W.D. works. (iv) CPWD specifications.

    (d) Architectural drawings.

    (e) Indian standards specifications/ BIS. (vii) Sound engineering practice. 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.

20. The contractor and /or his authorized agent should see the site order book every day and get the compliance of instruction given by the JE/AE/Engineer-in-charge (E-I/C) as per time schedule.
21. The contractor will not pitch up tents for laborers, materials and his stores etc.
22. No permanently / temporary huts / structures shall be constructed by the contractor at the site of work or at any government land / premises. Such structures, if any, found at the site or at AIIMS, Raipur land shall be demolished and removed at the cost of the agency without any notice.
23. Any damage to the building structure, fittings or any other articles etc. done by the contractor or his workman during the execution of the work shall be made good by the contractor at his own cost.
24. The contractor shall clear the site properly after the completion of the work.
25. The Agency shall be solely responsible for compliance to the provisions of various Labor and industrial laws, such as, wages, allowances, compensations, EPF, Bonus. Gratuity, ESI etc. relating to personnel deployed by it at AIIMS, Raipur 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, Raipur for whatever reason. The Agency shall also be responsible

For the insurance of its personnel. The Agency shall specifically ensure compliance of various Laws / Acts, including but not limited to with their re-enactments / amendments / modifications etc.

(a) The Payment of Wages Act 1936.
(b) The Employees Provident Fund & MP Act, 1952.
(c) The Contract Labor (Regulation) Act, 1970.
(d) The Payment of Bonus Act, 1965.
(e) The Payment of Gratuity Act, 1972.
(f) The Employees State Insurance Act, 1948.
(g) The Employment of Children Act, 1938.
(h) The Motor Vehicle Act, 1988.
(i) Minimum Wages Act, 1948.

26. **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, Raipur in that event the ~~EMD and /or~~ Performance Guarantee and/or security deposit shall also stands forfeited.

27. **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 Raipur. The decision of the Arbitrator shall be final and binding on the both parties.

28. **Dispute Settlement**: It is mutually agreed that all differences and disputes arising out of or in connection with this agreements 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 Director, AIIMS, RAIPUR 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.

29. Guidelines issued by Hon'ble National Green Tribunal in O.A. No. 21 of 2015 and O.A. No. 95 of 2014 in the matter of Vardhaman Kaushik Vs. Union of India & other and Sanjay Kulshreshtha Vs Union of India & ors: Air Pollution of Dust from Construction and Demolition activity reg. issued vide letter No. DPCC/EIA/Ref-001 to 172/NGT-21/2015/225-408 dt. 17/04/2015 shall be complied by the Bidders.

30. The sample of all the items shall have to be got approved by the Contractor from the Engineer-in-Charge/Superintending Engineer or his Representative before the supply commences, the approval of sample shall be only in respect of workmanship and finish, and shall be without prejudice to the right of Engineer-in-Charge to get random samples tested out of the actual lot received as per additional conditions. This decision is the Prerogative of Engineer-in-Charge.

31. The contractor shall furnish the manufacturer's certificate that the material supplied satisfy the requirements of the relevant specifications.

32. The Engineer-in-Charge shall be at liberty to test respective sample (s) of each item of schedule of quantity in any approved laboratory as decided by him. The sample for testing

shall be provided by the contractor. If the test proves satisfactory and the material is accepted, the testing charge in respect of satisfactory test shall be borne by the department.

33. All other expenditure required to be incurred for making available the sample, conveyance and packing etc, shall be borne by the contractor himself. In case any sample of particular lot fails in testing the contractor shall be bound to replace the entire lot with fresh material of prescribed specifications and the rejected lot shall only be returned to the contractor after fresh lot is supplied. Testing charges in respect of failed sample will be borne by the contractor himself.

34. Rejected materials shall have to be removed by the contractor at his own cost at once.

35. In case of any dispute regarding rejection of quantity of materials the decision of Engineer-in- Charge shall be final and binding upon the contractor.

36. Conditional tenders are liable to be summarily rejected.

    Composite register issued by Engineer-In-charge must be maintained by representative of E-I-C and contractor both. The contractor or his representative is bound to sign the Composite register as and when required by the Engineer-in-Charge and to comply with the remarks therein.

TECHNICAL SPECIFICATIONS FOR INTERNAL AND EXTERNAL ELECTRICAL WORKS

1. The work shall be carried out strictly in accordance with CPWD specifications for Electrical Works 2013 (internal) and 1995 (External) as amended up to date and in accordance with Indian Electricity Rules, 1956, Indian Electricity Act, 1910 as amended upto date and as per instructions of the Engineer-in-Charge including as below and nothing will be paid extra.
2. All materials to be used on this work shall be ISI marked & shall be got approved in written from the Technical sanctioning authority/Engineer-in-Charge before installation at site unless otherwise not covered under ISI.
3. PVC insulated Cu conductor wire used shall be multi-standard FRLS grade for which nothing extra shall be paid.
4. The work shall be carried out according to approved drawings/details which shall be subsequently issued to the successful tenderer for execution of work and as per instructions of Engineer-in-Charge who will have the right to change the layout as per requirement at site and the contractor shall not have any claim due to change in layout. The work shall be executed by skilled person Licensed by the approved authorities.
5. The size of conduit and wiring shall be got approved from the Engineer-in-Charge before taking up the execution.
6. The contractor shall make his own arrangement at his own cost for electrical / general tools and plants required for the work. Main Board and Main Distribution Board: The work shall be carried out according to the drawings / details are as approved by the Engineer- in-Charge. The contractor shall have to get the samples approved before the whole lot is brought to site and it shall include all inter connections etc. All termination of electrical cables in panel / feeder pillars DB's, cable-looping box etc. shall have to be done with proper thimbles / Cu lugs using crimping process. Copper thimbles / reducer shall be used for copper cable and Aluminum cable nothing extra will be paid for the same.
7. All materials shall be supplied and used in items of works by the contractor should be of standard and approved quality. They should be got approved from the Engineer-in-Charge or his authorized representative before installation otherwise no payment will be made for an unapproved or rejected material used on the works and the same shall be removed at his cost from site or work.
8. The contractor shall have to prove bonafide of the make of materials by producing necessary documentary evidence. They are advised to obtain prior approval of Engineer-in-Charge for proposed make of material, before bringing material to site work.
9. Location of light fixtures, cable routes, power & light point etc. should be prepared & got approved from the Engineer-in-Charge before execution.
10. All interconnection in the panel, DB, cable-looping boxes shall be carried out with suitable cable commensurate with the current carrying capacity of incoming and outgoing cables complete with thimbles etc. as required for which nothing extra shall be paid.
11. All panels, DB's, cable-looping boxes will be numbered and marked with paint / name plate, ferruling of circuit/submain etc and nothing extra will be payable on this amount.
12. All MCB, MCCB, MCB, DB's, RCBO's, RCCB with DB's shall be of same make / manufacturer.
13. Modular Switch / Socket's / Plates / Computer outlet / Telephone outlet and all accessories shall be of the single make only be provided. The contractor shall have to make the edges around the boxes wherever required shall have to be made by the contractor for which nothing extra shall be paid. The galvanized metal box shall be of the standard thickness as the GI boxes besides other requirement.
14. All the material should be ISI Marked unless otherwise clarification is not available and approved by the E-I-C.

15. The entire installation shall be at the risk and responsibility of the contractor until these are tested and handed over to the department.
16. Notwithstanding the schedule of quantities, all items of interrelated works considered necessary to make the installation complete and operative are deemed to be included shall be provided by the contractor at no extra cost.
17. The connection, inter connection, earthing and inter earthing shall be done by the contractor wherever required and noting extra shall be paid on this account All repairs & patch work shall be neatly carried out to match with the original finish & all damages caused to the building installation during the execution of work shall have to be made good by the contractor immediately at his own cost to the entire satisfaction of Engineer-in-charge. In case contractor fails to comply with the instructions of the Engineer-in-charge, Engineer-in-charge shall be at liberty to get the work done by any other agency and recover such amount as paid to the other agency from the bill(s) of the contractor. Contractor shall have no claim, whatsoever, on the extent of such amount.
18. The contractor shall have to provide the fish wire after removing the choking of the conduits. Even if subsequently the conduits are found chocked, the choking will be get removed and / or the new conduits shall be provided at the risk and cost of the contractor.
19. Wherever ceiling roses are not required to be provided in the light/fan/exhaust fan points, due to site conditions, the contractor shall use suitable three pin connectors for which nothing extra shall be paid. Wiring shall be carried out with FRLS wires.
20. Contractor shall provide polythene/PVC plastic cover for all MDB's/SDB's/DB's, panels, feeder pillars etc to protect them from rust/damages, during execution of work till the work is actually completed and handed over to the department.
21. Makes of all items that are not covered in the schedule of work/additional specifications shall be got approved from the Engineer-in-charge and shall conform to relevant Indian Standard as applicable.
22. The contractor shall ensure that the staff employed by him for execution of the electrical work, possess the valid electrical license issued by competent authority. Consequences arising due to the default of the contractor in not complying with the above condition shall be the responsibility of the contractor.
23. Copper lugs shall be provided for terminating copper/aluminium/GI earth wire to all switchboards for which nothing extra shall be paid. All multi-stranded/ stranded wires shall be terminated through copper lugs.
24. All the hidden work and earthing shall be done in the presence of the Engineer-in-charge or his authorized representative.
25. The schematic diagram/dimensional drawings of the various electrical cubical panels shall be got approved from the Engineer-in-charge before fabrication and shall comply with CPWD specifications and Indian Electricity Rules. The panels shall conform to IS: 8623/1993. All panels shall be powder coated inside out, in shade approved by the Engineer-in-charge.
26. All floor-mounted panels shall be mounted on M.S. channel of suitable size on all the sides. It shall have a continuous earth bus of the same size and material as the main phase running continuously along the length of the panel extending on either side for earth connection.
27. The doors of all cubicle panels shall be hinged type including those of bus bar chambers and cable alleys. The locking shall be with chrome plated metal key locks. All doors shall be earthed with copper conductor wire as approved by the Engineer-in-charge.
28. The work shall be carried out according to drawing approved by the Engineer-in-charge. The layout once approved can only be changed by the Engineer-in-charge as per requirement at

site. It shall be the responsibility of the contractor to plan the layout and get the approval from the Engineer-in-charge before laying the conduits etc.

29. The MCB should be of the same make as that of MCB DB's and having a minimum breaking capacity of 10 KA, C-curve. Contractor shall obtain approval of the Engineer-in-charge before procurement of MCB DB's.
30. All model of modular accessories required for the work shall be got approved from the Engineer-in-charge from among the approved makes. The base plate shall be preferably in sheet steel or otherwise in unbreakable polycarbonate. The cover plates shall be screw less type in shade approved by the Engineer-in-charge.
31. MCCBs shall be used with terminal spreaders and all terminals shall be shrouded to avoid direct contact.
32. All measuring and indicating instruments shall be protected through MCB's and isolating switches.
33. General arrangement drawing of the switchboard shall be prepared and got approved from the Engineer-in-Charge before commencement of manufacturing/installation.
34. For the items like LT panels, feeder pillars and accessories, etc, the firm shall arrange for inspection in the factory and provide for all facilities for testing. The cost of the visit of Engineer-in-Charge or his representative shall be borne by contractor. However, firm will be responsible for arranging the inspections as required.
35. Conduit layout as per switching arrangement shall be prepared by contractor and got approved from the Engineer-in-Charge before slab casting.
36. Conduit and termination to SDB and main board adapter box i/c connection wires to MCB,s inter connection between SDB and main board etc shall be included in the tendered rates and nothing extra shall be paid for the same.
37. The contractor shall provide junction boxes / looping boxes of required sizes and such boxes shall be measured as part of conduit / batten wiring without any extra payment.
38. M.S. dash fastener shall be used for installation of fittings and fixtures in ceiling and for providing suspenders for the angle support, conduiting, cable tray etc. for which nothing extra shall be paid
39. All CI/metal boxes & junction boxes should be cleaned properly and painted from inside before wiring & fixing the accessories.
40. Cables:-
    (a) Cables shall be bought from manufacturer only as per approved NIT.
    (b) The length of the cables required shall be measured w.r.t. site condition and these shall be delivered in section of approved length only, to avoid jointing as far as possible.
    (c) Cable delivery shall be scheduled in consultation with department only.
41. Conduit layout drawing shall be got approval by Engineer -in-Charge before laying of conduit.

42. Conformity to specifications:-
    (a) PVC insulated copper wire used shall be ISI marked and wire of the size 4.00 Sq. mm and above shall be of stranded conductors and all standard wires are required to be crimped for connections / terminations.
    (b) All accessories like switches, sockets, C/roses, holders shall be ISI marked.
    (c) Phenolic laminated sheet be of only ISI Marked. Covers for adopter box and function box shall also be of white phenolic laminated sheet.
43. Earthing connections:-
    (a) All fans & fittings are to be properly earthed for which no extra will be paid

(b) Proper sleeving is to be provided to bare earth conductor in the switch boxes and also to bore Conductors used for inter switch looping inside the switch boxes for which no extra will be paid.

(c) Termination of wiring inside DB's & main boards should be by crimped connections

(d) Clamp type termination of earth strip (wherever provided) to pipe electrode will be made

44. Date of acceptance of the installation

(a) After the Engineer – in – Charge is satisfied that the installation complies with requirements of specifications in all respect

(b) The entire installation shall be at the risk and responsibility of the contractor until these are tested and handed over to the department. However, if there is any delay from the department side, the installation may be taken over in parts but the decision on the same shall be binding on the contractor

56. To carryout specialized or non-specialized work of electrical nature, technical labour to be minimum ITI qualified and should have experience of Electrical safety & wiring rules & to be authorized by contractor or sub-contractor.

57. Technical Specifications Compliance Report (Annexure-"I", "II", etc.)(If any) of LED fitting should be filled & get approved with supporting test report in written from the Engineer-in-Charge before supply/use at site.

58. Electrical circuit distribution after distribution board will be executed with antibacterial UPVC trunking, antibacterial switch socket & accessories etc. as per specifications.

ADDITIONAL TERMS AND CONDITIONS

FIRE ALARM & WET RISER SYSTEM

1. **GENERAL**: These specifications cover manufacture all preparatory work & testing as may be necessary before dispatch & delivery of equipment's at site, assembly and installation, final testing, commissioning, and one year guarantee period.
2. **SUBMISSION OF DRAWINGS**
   The contractor shall submit the drawing to the Engineer-in-charge as per CPWD General Specifications for part v (wet riser & sprinkler system) 2006 for approval before start of work.
3. **SUBMISSION OF MANUALS**
   The successful tenderer should furnish well in advance copies of detailed instructions and manuals of manufacturers for all equipments such as fire alarm zonal panel, main control panel, amplifier, hooter and smoke detector regarding installation, adjustments operation and maintenance i/c preventive maintenance & troubleshooting.
4. **QUALITY OF MATERIALS AND WORKMANSHIP**
   (a) The components of the installation shall be of such design so as to satisfactory function under all conditions of operation.
   (b) The entire work of manufacture/fabrication, assembly and installation shall conform to sound engineering practice. The entire installation shall be such as to cause minimum transmission of noise and vibration to the building structure.
   (c) All equipments and materials to be used in work shall be manufactured in factories of good repute having excellent track record of quality manufacturing, performance and proper after sales services.
5. **INSPECTION AND TESTING**
   (a) Initial inspection of materials & equipments at manufacturer's works may be done if so required by the Engineer-in-Charge or his representative at his discretion. For item / equipment requiring initial inspection at manufacturer's works, the contractor will intimate the date of testing of equipments at the manufacturer's works before dispatch. The contractor shall give sufficient advance notice regarding the dates proposed for such tests to the department's representative(s) to facilitate his presence during testing. The Engineer-in-Charge at his discretion may witness such testing. Equipments will be inspected at the manufacturer / authorized dealer's premises, before dispatch to the site by the contractor.
   (b) The department also reserves the right to inspect the fabrication job at factory at the discretion of the Engineer-in-charge and he successful tenderer has to make arrangements for the same.
   (c) The materials duly inspected by engineer-in-charge or his authorised representative shall be dispatch to site by the contractor.
   (d) No additional payment shall be made to the contractor for initial inspection / testing at the manufacturer's works by the representative of the Engineer-in-Charge. However, the department will bear the expenses of its representative deputed for carrying out initial inspection / testing.
   (e) The requirement of initial inspection can be dispensed with waived off by the Engineer-in-Charge.

6. **GUARANTEE**

(a) The contractor shall guarantee the complete system to provide the specified flow and pressure under all conditions & outlets.

(b) All equipment's shall be guaranteed for a period of 12 months or as agreed or as per the guarantee period mentioned by the OEM from the date of acceptance and taking over of the installation by the Department against unsatisfactory performance and/or breakdown due to defective design, material, manufacture, workmanship or installation. The equipment or component or any part thereof so found defective during the guarantee period shall be repaired or replaced free of cost to the satisfaction of the Engineer-in-charge. In case it is felt by the department that undue delay in being caused by the department at the risk & cost of the contractor. The decision of Engineer-in-charge in this regard in this regard shall be final.

7. **DRAWINGS FOR APPROVAL ON AWARD OF THE WORK**

The contractor shall prepare & submit three sets of following drawings and get them approved from the Engineer-in-charge/ authorized representative of E-I-C before the start of the work. The approval of drawings however does not absolve the contractor not to supply the equipment's materials as per agreement, if there is any contradiction between the approved drawings and agreement the decision of the engineer-in-charge shall be final binding on the contractor.

(a) Electrical Layout drawings of the items to be installed on site.

(b) Dimensioned drawings of all electrical panels.

8. **COMPLETION DRAWINGS & DOCUMENTS**

Three sets of the following laminated drawing shall be submitted by the contractor while handing over the installation to the Department. Out of this one of the sets shall be laminated on a hard base for display in the Electrical control room & Distribution Board. In addition one set will be given on compact disc.

(a) Installations drawings giving complete details of all the equipment's, including their foundations.

(b) Plumbing layout drawings giving sizes and lengths of all the pipes and the sizes and location of all types of valves, and including isometric drawings for the entire piping including the pipe connection to the various equipment's.

(c) Line diagram and layout of all electrical control panels giving switchgear ratings and their disposition.

(d) Control wiring drawings with all control components and sequence of operations to explain the operation of control circuits.

9. **AFTER SALES SERVICES**

The contractor/OEM shall ensure adequate and prompt after sales services in the form of maintenance, spares and personnel as and when required and shall minimise the breakdown period. In case of equipment supplied by other manufacturers the firm shall furnish a guarantee from the manufacturer for the same before the plant is taken over.

(a) 3 sets of manufacture's technical catalogues of all equipment's and accessories.

(b) Operation and maintenance manual of major equipment's, detailing all adjustments, operation and maintenance procedure.

TERMS AND CONDITIONS FOR AC&R WORK

1. The bidder Shall visit the site of installation & Commissioning of the Air conditioning machine and understand the nature & scope of the work and doubts of any nature and should be got clarified before quoting. Agency ascertains themselves with all the rules and regulations of the premises of AIIMS Raipur.
2. Packaging, forwarding, storage and safe-keeping of all the supplied materials shall be the sole responsibility of the bidder irrespective of the location of the material. Agency is responsible for all the materials on site (finished or unfinished). Any loss or damage cause to the materials incidental or otherwise shall be borne by the agency. The Institute shall assume no responsibility in this regard under any circumstances.
3. The equipment offered shall conform to the specifications as given in tender and shall be guaranteed against defective design, defective quality material supplied, manufacturing defects etc. for a minimum period of 15 months from the date of supply and 12 month after installation of Air conditioning machine.
4. The Agency shall give guarantee for the work executed and shall be responsible for the defects occurred during the period of 12 months after the completion of work and shall rectify the same at his own cost. the agency also give one year warranty of Air conditioning machine.
5. SITC for Machine must be carried out by the bidder, quarterly servicing will be done by the bidder within warranty period. The Contractor shall ensure running equipment's are available at default rated parameters & capacity. extra amount of refrigerant (if required) to run air conditioner as per parameters in the scope of agency. The healthiness of Air conditioning machine shall be ensured with no water or refrigerant leakage, no abnormal sound, proper setting of thermostats and their tripping etc.
6. Damage to the building during execution of work shall be made as good as previous by the contractor, otherwise penalty will be imposed by the Engineer-In-Charge which will be final & bound to contractor.
7. The contractor shall handover the Air conditioning machine in healthy and working condition to the department after completion of work and any shortcoming / missing parts noticed at the time of handover shall be made good by the contractor free of cost, otherwise necessary deduction will be made from the bill which is bound to the contractor.
8. The agency shall ensure that its employees while on AIIMS Raipur premises or while carrying out their obligations under this contract, observe the standards of cleanliness, decorum and general discipline lay down by AIIMS Raipur. After completion of work area should be cleaned. the cleaning of dust, Oil Spillages, Welding butts, Metal Scraps, used nut bolts & all other scrap removal shall be in contractor's scope. Handling of Scrap generated arises on account of activities or any kind of material handling will be in agency scope.
9. Any malba generated due to dismantling/maintenance shall be cleared from the site of work immediately without any extra cost failing which same shall be done by the department and suitable recovery shall be made from the contractor.
10. All works related to installation of Air conditioning machine like making holes in the walls for passage of copper tubes and electrical cables, mounting of stands, minor Civil work like cutting of existing false ceiling and fitting of AC indoor unit etc. shall be done by the agency and all tools, and tackles including ladder etc. shall be arranged by the agency. However, for loading / unloading of Air conditioning machine in the scope of agency. the AIIMS Raipur

shall not provide any labour to the contractor for lifting or transportation of the Air conditioning machine.

11. Agency shall be provides all spare parts list with their prices and It is mandatory to provide O&M user /maintenance manual after completion of work.
12. At the time of acceptance of the tender, agency shall furnish the details of workers along with contact details.
13. The contractor or his representative should not remove, disturb and dislocate the existing equipment and its parts from its positions until and unless it is authorized by the Engineer (AC/R).
14. Any of the skilled or unskilled workers at site found not up to the standard or undesirable will be required to be forthwith removed by the agency. If found under the influence of the above, contracting firm shall have to change /replace him, failing which we may terminate the contract.
15. Agency shall arrange to render efficient service as outlined by AIIMS Raipur. If due to any reason, the firm is not able to do the work, the same shall be got done from some other firm or from the open market at the risk & cost of the contractor and the expenditure incurred there on shall be recovered from the contractor including penalty imposed by the Engineer-In-Charge which will be bound to the contractor.
16. The agency will have to carry out the work in accordance with the drawings technical specifications / or other conditions after allocation of work and to the full satisfaction of AIIMS Raipur.
17. No accommodation for the labourers will be allowed within AIIMS Raipur.
18. Installation site distance between Indoor Unit and Outdoor Unit is deferment meters, therefore normal supply of copper tubing, insulation pipe and water drain pipe shall be accordingly and default parameter achieved as per this.
19. Installation, testing and commissioning report as per default parameter and 72 hour testing report duly certified by Engineer (AC&R).
20. It is expected from the agency that all the items specified for supply in the tender shall be strictly in accordance with the standards and quality specification by the respective manufacturers. Therefore the bidders are advised to go through the specifications of the items before submitting the bids.
21. The Bidder ensures that the items supplied against this tender are new, unused, of the most recent or current models and those they incorporate all recent improvements in design and materials. The Bidder further ensures that all items/goods supplied against this tender shall have no defect arising from design, materials or workmanship.
22. The Compact Cassette machine size should be less than 600mmX600x300mm and Grill or Panel Size should be equal or less than 700mmX700mmX60mm.

(TECHNICAL SPECIFICATIONS FOR VRF/VRV AIR CONDITIONING SYSTEM)

1. Scope of Work:

The variable refrigerant volume/flow (VRV/VRF) system provided by the manufacturer shall be factory assembled with pre charged refrigerant, factory wired with all unit mounted controls, piped and factory tested. Units shall be provided as per the bill of quantities attached in the tender document if Alternative combination of outdoor units shall be submitted by contractor in order to provide equivalent thermal capacity mentioned in the tender document. All units shall be suitable for operation with 415V ± 10%, 50Hz±3Hz, and three phase power supply for outdoor units and 220V ± 10%, 50Hz±3Hz, single phase power supply for indoor units.

2**. Drawings for approval on award of the work:**

a) The contractor shall prepare & submit three sets of following drawings and get them approved from the Engineer (AC&R) before the start of the work. The approval of drawings, however, does not absolve the contractor not to supply the equipment's /materials as per agreement, if there is any contradiction between the approved drawings and agreement.

b) Layout drawings of the equipment's to be installed including control cables, fuel/copper pipes and supports/structure for ducting & piping, Grills, Diffuser ,Indoor and bus ducts/cable trays.

c) Any other drawings relevant to the work.

3. **VRF System Configuration:**

The variable refrigerant flow/Volume system shall comprise of multiple type of indoor units with centrally located air cooled outdoor unit constituting of inverter driven scroll compressor for air conditioning application with R410a or CFC free refrigerant. Both indoor units and outdoor unit shall be properly assembled, internally piped and wired, Thoroughly tested and charged with refrigerant at factory and shall be topped up at site after Erection. Additional charge of refrigerant should be in the scope of agency.

Each refrigeration system shall be equipped with inverter driven scroll compressor, with or without solenoid valves, heat exchangers, accumulators, and 4-way valves along with flare connection parts and all other accessories required to make the system complete and functional to provide required design conditions. System shall be operated, monitored and controlled through independent wired remote controllers as per specifications.

2 (A). Indoor units system capacity and features: Indoor unit thermal capacities shall be selected for maximum of dehumidified volume flow rate **OR** actual thermal capacity as per heat loads whichever is higher and **NOT** as per nominal cooling capacity. "Thermal capacity" shall mean cooling capacities in cooling mode and heating capacities in heating mode as per heat loads. Also, indoor units shall be selected at maximum actual capacity considering fan speed of indoor units at **HIGH** mode. Grouping of indoor units with respect to outdoor units shall be selected by manufacturer and specified in their quotations. System shall be designed such that in case of failure of one unit it shall be isolated and maintenance carried

out while other units shall be running and provide required thermal control. Grouping of indoor units shall be made in daisy chain configuration.
Units shall be compact in design, aesthetically appealing and match the interior layouts. Units shall have capability to be operated individually in order to cater to diverse occupancy and thermal loads. Temperature shall be controlled through microprocessor in order to provide cooling / heating as per room data sheets. Indore Units should have more than 2 rows of coils. Units shall be thermal and acoustically insulated with in order to have noise level to maximum of 60 dB (A) at a horizontal distance of one meter from the grille of the unit. Unit shall also comprise of factory installed mold resistant washable filters with resin net as a standard design.
Unit shall have provision to add drain pump kit if required on either side of the unit. Drain pump shall have capability to lift one meter from unit bottom edge.
Step less discharge angle adjustment shall be possible through remote controller of the unit. Indoor unit shall comprise of following parts in general: - Air intake grille, Air intake filter, Auto vane, Guide van. Units shall be operated, monitored and controlled through independent wired remote Controllers as per specifications.

2 (B).Outdoor unit's system capacity and features: - Outdoor units shall be air cooled type with hermetically sealed inverter driven scroll compressors. Aluminum fins of condenser coils shall be provided with "Anti corrosive" treatment and shall be suitable for areas of high pollution and corrosive atmosphere. Units shall be selected to supply minimum of 33% back up operation of full load capacity in single unit / multi-unit configuration and shall be operated through remotes of indoor units. Condenser fans shall provide axial flow in vertical/ horizontal direction and shall be directly coupled to motors.. Outdoor unit capacities shall be estimated based on total capacities of all indoor units selected in the group. Outdoor units thermal capacities shall be de-rated and provide actual capacities mentioned in room data sheets for outside conditions mentioned above.

Compressor shall be provided for adjusting the amount of refrigerant being circulated in the refrigeration circuit. This adjustment shall be performed automatically by adjusting the operating frequency based on operating pressure data.

- The compressor(s) shall be hermetically sealed scroll and designed for continuous operation at 52°C ambient temperatures. The VRF/VRV Unit should have invertors driven scroll compressor. Inverter driven compressor shall be operated on frequencies ranging from 50Hz to 220Hz.
- All invertors driven scroll compressor shall have protection for electronic circuits and elimination of electromagnetic sound, which may interfere with the control function of the machine.
- The unit shall have safety device such as high-pressure switch, fan motor safety thermostat, invertors overload protector, fusible plugs and fuses etc. for trouble free operation of the unit.
- The condenser shall be air cooled, made of copper tubes with extended aluminum fins with anti-corrosive coating. The condenser coil shall be multi-pass, cross-finned tube type, equipped with highly efficient aluminum fins, mechanically bonded to

oxygen free copper tubes. The coil shall be cleaned, dehydrated and tested for leakage at the factory.

- The cabinets shall be fabricated out of heavy gauge, properly formed for close fit and Structural rigidity. All access panels shall be so constructed as to be quickly and easily removable. All outside surface shall be finished with powder coating for protection against humid weather.
- The condenser fans shall be step-less driven and designed to achieve low condensing temperatures & operate continuously and silently. Control box of outdoor unit shall comprise of all relays, capacitors, resistors, fan control board, control board, controller board, terminal blocks for transmission, terminal blocks for power supply, Noise filter and inverter board.
- Units shall be acoustically designed to provide noise level at or below 65dB (A) considering one meter distance from the outdoor unit. Harmonic noise control shall be provided to level not exceeding 5% for power distribution system. Potential free contacts shall be provided for monitoring status of outdoor units through building management system. This shall include START / STOP / RUN / TRIP.

4**. Devices shall be provided for automatically detecting and controlling following parameters**:

- Protection of system against high and low pressure.
- Detecting discharge air temperature and provide protection against high pressure.
- Controlling frequency of the inverter.
- Defrosting operation based on liquid pipe temperature.
- Sub-cooling of heat exchanger.
- Superheat of heat exchanger.
- Outdoor air temperature and control fan operation of outdoor unit.
- Control inverter cooling fan to maintain desired inverter sink temperature.
- High and low pressure by pass at start up and stopping and provide capacity control at low load operation.
- High pressure rise prevention.
- Outdoor unit heat exchanger capacity.
- Adjust amount of bypass flow from the liquid line of the outdoor unit during cooling OR heating as per application.
- Heat refrigerant in the compressor.
- Change over between heating and cooling as per application.
- Indoor unit temperature control based on return air temperature of the conditioned area.
- Oil equalizing among outdoor units and prevent accumulation of refrigerant in non – operating outdoor units in multiple outdoor unit configurations.
- Detecting suction pipe and discharge pipe temperature for temperature protection control of motors and other components.
- Outdoor unit rotation shall be possible based on operating priorities in multiple outdoor units' configuration to prevent compressor burnout due to unbalanced oil level.

5. Refrigerant:

Refrigerant used shall be low in toxicity, chemically stable and non-flammable. Refrigerant used shall have zero ozone depletion potential (ODP) with low global warming potential (GWP). Refrigerant shall be charged after completing field wiring, finishing leak test and vacuum drying. Refrigerant charge shall always be less than maximum permissible charge and of specified amount in order to avoid liquid hammer and compressor breakdown.

6. Refrigerant Piping:

Manufacturer's recommendation shall be followed for maximum piping lengths. Refrigerant piping connecting the branch piping and the outdoor units shall be installed such that refrigerant piping moving towards the indoor unit is in downward slope compared to outdoor unit. Trap / vertical loop of minimum 200mm height shall be provided on the gas line within the 2(two) meters distance from the joint pipe if the total length of the refrigerant pipe that connects the joint pipe and outdoor unit exceeds 2(two) meters. Oil equalizing line with insulation shall be provided between outdoor units when multiple outdoor units are connected. Diameter of refrigerant piping (Liquid line and gas line) between outdoor unit and first branch shall be as per manufacturer's recommendation based on capacity and maximum piping lengths. Refrigerant piping (Liquid line and gas line) distance between first branch and indoor unit and between branches for connection to indoor unit shall be as per manufacturer's recommendation based on capacity and maximum piping lengths. Stop valves shall be installed in refrigerant line. Refrigerant piping shall be stored with both ends sealed until just before brazing at site and elbows / other joints shall be store in plastic bags. Copper pipes shall be selected for maximum working pressure of 624 psi for R – 410a refrigerant circuit and for maximum working pressure of 500psi in case of R407C refrigerant. Copper pipes shall be made of phosphorus deoxidized seamless copper. Minimum thickness to be used as per BOQ. Copper pipes shall be stored indoors in order to avoid contamination through moisture. Both ends of pipes shall be sealed until just before brazing. All accessories like elbows, T – joints shall be kept sealed in plastic bags. Both gas line and liquid line shall be insulated with heat resistant polyethylene foam or nitrile rubber having thickness of 19mm or more. Insulation work shall be carried out after finishing air tightness test and vacuum drying. All piping works, refrigerant branch kits shall be completely insulated. Insulation thickness shall be selected for maximum of condensation OR heat loss.

7. **Refrigerant Piping Installation:-**

The agency on the award of the work shall prepare detailed working drawings, showing the cross section, longitudinal sections, showing U traps for oil return if any, details etc. They must keep in view the specific openings in buildings and other structures through which the pipes are designed to pass. All the working drawings shall be approved by the Engineer (AC&R) before starting of the installation

Piping shall be properly supported on **OR** suspended from stands, clamps, hangers etc., as specified and as required. The pipe supports should be adjustable to a height of 50 mm. The contractor shall adequately design all the brackets saddles, clamps, hangers etc. and be responsible for their structural integrity. All piping connected to coils and apparatus requiring tube cleaning or removal, shall be run clear of such area except for removable connections. Piping passing through expansion joints and connecting the equipment which in turn is not Isolated from vibration shall be provided with rubber expansion joint. Vertical risers shall be parallel to walls and column lines and shall be straight and plumb. The supports shall be as shown in the drawing enclosed. Where pipes pass through the terrace floor, suitable flashing shall be provided to prevent water leakage. Risers shall also have a suitable elbow or concrete/channel support at the lowest point. Pipe sleeves of 50 mm larger diameter shall be provided wherever pipes pass through walls and the annular space filled. Open ends of the piping shall be blocked as the pipe is installed to avoid entrance of foreign matter. Drains shall be piped through equal size G.I. / PVC/CPVC with insulation pipes to the nearest drain or floor waste. Piping shall be pitched towards drains points. The drain connections from AC equipment's should have 2% slopes with 40 mm for FCUs.

8. **Electrical & control works:-**

a) This specification defines the requirements of supply of Electrical Panel, fabrication, installation, testing and commissioning of electrical control panels, wiring and earthing for

all components of the air conditioning system. Cabling from the panel to individual outdoor /indoor units and control wiring will be in the scope of HVAC contractor.

b) Maximum allowable cable lengths: - Maximum distance between indoor/outdoor transmission line shall be less than or equal to 200meters. Transmission booster shall be provided for system in which more than 26 indoor units are grouped. External transmission cables and power cables shall be separated by minimum distance of 50mm in order to avoid noise interference. All cables shall be with copper conductors. Outdoor units shall be properly grounded. Cable connections carried out shall be such that terminals in the electrical box and accessible for servicing. Transmission cables for different group of refrigerant systems shall be provided separately instead of using multi core transmission cables to avoid signal transmission errors /malfunctions.

c) Systems with long transmission lines shall be routed to have minimum noise interference. Reverse phase protection shall be provided in the system and shall be designed to stop the unit in case of any such abnormality is detected. Power circuit must be provided for connection to the unit. The circuit must be protected with the required safety devices i.e. a main switch, a slow blow fuse on each phase and a ground leak detector suitable to handle higher harmonics.

9. VRF/VRV Testing:-

(a)System test and leaks:- All leaks and defects in joints revealed during the testing shall be rectified to the satisfaction of the Engineer (AC&R) of AIIMS Raipur. Piping repaired subsequent to the above pressure test shall be re-tested in the same manner. System may be tested in sections and such sections shall be securely capped. The contactor shall be notified well in advance to Engineer(AC&R) of his intention to test a section or sections of piping and all testing shall be witnessed by the Engineer(AC&R) or his authorized representatives.

-The Contractor shall make sure that proper noiseless circulation of fluid is achieved through all coils and other heat exchange equipment in the system concerned. If proper circulation is not achieved due to wrong connection, the Contractor shall rectify the defective connections. He shall bear all the expenses for carrying out the above rectifications, including the tearing up and re-finishing of floors, walls etc. if required

-No insulation shall be applied to piping until after the completion of the air leakage testing and vacuum testing to the satisfaction of the Engineer (AC&R).

-The Contractor shall provide free of any additional cost, all materials, tools, equipment, instruments, services and labor required to perform the test.

-Leak test shall be carried out specific to the refrigerant being used in the system. Refrigerant leak test shall be carried out by pressurizing the system with nitrogen to 601psi OR manufacturer's recommendation taking temperature variations into account.

(b)Air tightness test: -Leak test shall be carried out by leak detectors specifically designed for use with refrigerant being used in the system. Keep the refrigerant line pressurized for 24hours. If pressure drops within 24hours the system passes the leak test. If the pressure drops check the nitrogen leaks.

(c)Vacuum drying:- Vacuum pump to be used shall comprise of reverse flow check valve in order to avoid vacuum pump oil from flowing into the refrigerant circuit during power OFF mode. Vacuum pump having capacity to attain 65Pa or lower degree of vacuum after five minutes of operation, and shall b connected directly to vacuum gauge. Vacuum gauge used shall have range of 650Pa and shall have capability to measure at 130Pa intervals. After vacuum has reached 650Pa evacuate for additional one hour. Verification to be carried out that vacuum degree has not risen by more than 130Pa after one hour evacuation. Rise less than 130Pa shall be acceptable. Vacuum pump shall be stopped in the procedure so as to prevent reverse flow of vacuum pump oil. Unit shall be vacuum tested at 7mm of Hg and shall be maintained for minimum four hours. Vacuum test shall be carried out before Engineer (AC&R) twice before refrigerant charging.

(d)Refrigerant charging: - Refrigerant charging shall be carried out by bringing the refrigerant in cylinder in liquid state.

10. System controlling method:

Power failure mode: - Indoor unit shall go into operation in case it was in operation when power was turned off (cut off due to power failure).

Demand control steps / Compressor operating priority:- Capacity control shall be provided in continuous manner.

Example: **100%capacity 50%capacity 0% capacity**

Electronic expansion valve control:- Expansion valve shall be used for capacity control in order to maintain evaporator outlet superheated temperature at constant level during heating operation and to make maximum use of the evaporator.

Drain pump control:- Drain pumps shall be controlled automatically based on indoor unit operation and provide complete drain of any moisture adhering to the fin of the indoor unit heat exchanger. Drain pumps shall be equipped as standard accessory and the lift height shall be minimum 850mm.Drain pan shall be constructed so as to have zero retention of drain water when unit is not working and shall have antibacterial treatment to prevent growth of slime, mould and bacteria which cause blockages and odours.

Thermostat sensor location in remote controller:- Indoor temperature shall be controlled by the thermostat sensor mounted in remote controller/ air suction thermostat in indoor unit. It shall be possible at site to select between thermostat of remote controller and suction thermostat in indoor unit.

Freeze prevention: - Freeze protection shall be provided by measuring liquid pipe temperature of the indoor unit heat exchanger. Unit shall enter freeze protection mode in case indoor unit heat exchanger liquid pipe temperature drops below manufacturer recommended level. Following conditions shall be used in general for freeze protection in case manufacturer data is unavailable. Freeze protection shall start in case liquid pipe temperature is (-) 1.1°C (30°F) or below for total duration of 30minutes or temperature is (-) 5°C (23°F) or less for total duration of 8minutes.

Refrigerant recovery control: Refrigerant recovery shall be performed during heating operation to prevent refrigerant from accumulating inside the indoor unit which is either off or running on fan mode. It shall also be performed during cooling operation to prevent excessive amount of refrigerant from accumulating in the outdoor unit heat exchanger.

11. Control system for VRF/VRV system:

Remote controllers:-This remote controller shall be cordless type unless specified for corded**,** which shall be mounted on the wall. It shall also allow for centralized control of system and system expansion capability along with flexibility for grouping changes. Remote controller provided shall have capability of being connectable anywhere on the transmission line between indoor unit and outdoor unit. Remote controller shall require address settings along with the indoor / outdoor unit address setting. It shall also have capability to interlock each indoor unit with a ventilation unit.

Grouping of indoor units and outdoor units if necessary shall be possible with the need for rewiring to be carried out. It shall be performed by either changing the address of indoor unit or remote controller address as the case may be.

Remote controller shall have LCD display with following operation buttons:

- ON / OFF switches for running / stopping the unit with LED flash indicating malfunctions.
- Switching between Cool / Dry / Auto / Fan / Heat operation modes shall be possible.
- Temperature setting in range of 17 – 28°C shall be possible in heating / cooling mode with 1°C increments.
- Fan speed setting shall be possible in low / medium / High modes.]
- Air flow direction angles shall be adjustable through the remote controller.
- Timer settings to program individually shall be possible.

- Interlocks with ventilation units shall be possible.
- Filter service indication shall be provided.
- Inbuilt clock
- Thermostat sensor Remote controller shall have following displays:
- Error code and affected unit shall be displayed.
- LED display indicating operation / off / malfunction of the unit.
- Display indicating filter to be cleaned.
- Display indicating de-frost operation.
- Indoor unit suction temperature.
- Cool / Dry / Auto / Fan / Heat mode in operation.
- Timer indicating current time and set times.
- Air direction display.
- Fan speed selected.
- Set temperature.

Remote controller wiring shall have of suitable size and type to avoid noise interference. Maximum cable length of remote controller shall be restricted to 500meters from remote Controller to indoor unit transmission cable.

12. **Commissioning: -** At the time of handover, the contractor has to do the performance test at site.

13. **Handover Document: -** At the time of handover, the contractor has to do the submit though not limited to following documents –

1) As built Drawing, both softcopy (Autocad and pdf) and Hardcopy, depicting Outdoor Unit, Indoor Unit and connected refrigerant piping and drain piping.
2) Operation and Maintenance Manual.
3) Service Escalation Matrix.
4) Handover Letter.
5) Warranty Letter.
6) Commissioning Report.

Annexure I

FORM OF EARNEST MONEY DEPOSIT
(Bank Guarantee Bond)

WHEREAS, contractor..... (Name of contractor) (Hereinafter called "the contractor") has submitted his tender dated..... (date) for the construction of ..... (name of work) (hereinafter called "the Tender")

KNOW ALL PEOPLE by these presents that we ..... (name of bank) having our registered office at ..... (hereinafter called "the Bank") are bound unto ..... (Name and division of Superintending Engineer) (hereinafter called "the Engineer in Charge") in the sum of Rs. ..... (Rs. in words .....) for which payment well and truly to be made to the said Engineer-in-Charge the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this .....day of ..... 20... . THE CONDITIONS of this obligation are:

(1) If after tender opening the Contractor withdraws, his tender during the period of validity of tender (including extended validity of tender) specified in the Form of Tender;

(2) If the contractor having been notified of the acceptance of his tender by the Engineer-in-Charge:

(a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to contractor, if required; OR

(b) fails or refuses to furnish the Performance Guarantee, in accordance with the provisions of tender document and Instructions to contractor,

We undertake to pay to the Engineer in Charge either up to the above amount or part thereof upon receipt of his first written demand, without the Engineer-in-Charge having to substantiates his demand, provided that in his demand the Engineer-in-Charge will note that the amount claimed by his is due to him owing to the occurrence of one or any of the above conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date* ..... after the deadline for submission of tender as such deadline is stated in the Instructions to contractor or as it may be extended by the Engineer-in-Charge, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE .....SIGNATURE OF THE BANK

WITNESS .....

SEAL (SIGNATURE, NAME AND ADDRESS)

*Date to be worked out on the basis of validity period of 6 months from last date of receipt of tender.

Annexure II

FORM OF PERFORMANCE GUARANTEE BANK GUARANTEE

(On a stamp paper of appropriate value from any Nationalized Bank or Scheduled Bank)

To
Superintending Engineer,
AIIMS RAIPUR,
TATIBANDH,
RAIPUR – 492099

Dear Sir,

In consideration of the AIIMS RAIPUR, having offered to except the terms and conditions of the proposed agreement between…….. & M/S_____ (hereinafter referred to as "the said Contractor (s)", which expression shall include his successor and assignees) for the work of _____ Contract No _____in terms inter alia, of the _____ Letter No._ _____ dated_____ and the General Conditions of Contract and upon the condition of the Contractor's furnishing Security for the performance of the Contractor's obligations and discharge of the Contractor's liability under and in connection with the said Contract upto a sum of Rs. _____ (Rupees _____only) amounting to _____percent of the total Contract value.

1 We,_____(hereinafter called `The Bank' which expression shall include its successors and assignees) hereby jointly and severally undertake to guarantee the payment to the Employer in rupees forthwith on demand in writing and without protest or demur or any and all moneys payable by the Contractor to the Employer in respect of or in connection with the said Contract inclusive of all the Employer's losses and damages and costs, (inclusive between attorney and client) charges and expenses and other moneys payable in respect of the above as specified in any notice of demand made by the Employer to the Bank with reference to this guarantee upto an aggregate limit of Rs._____(Rupees _____ only).

2 We_____ Bank Ltd. further agree that the Employer shall be sole judge of and as to whether the said Contractor has committed any breach or breaches of any of the terms and conditions of the said Contract and the extent of loss, damage, cost, charges and expenses caused to or suffered by or that may be caused to or suffered by the Employer on account thereof and the decision of the Employer that the said Contractor has committed such breach or breaches and as to the amount or amounts of loss, damage, costs, charges and expenses caused to or suffered by the Employer from time to time shall be final and binding on us.

3 The Employer shall be at liberty without reference to the Bank and without affecting the full liability of the Bank hereunder to take any other Security in respect of the Contractor's obligations and liabilities hereunder or to vary the Contract or the work to be done there under vis-a-vis the Contractor or to grant time or indulgence to the Contractor or to reduce or to increase or otherwise vary the prices of the total Contract value or to release or to forbear from

enforcement of all or any of the Security and/or any other Security(ies) now or hereafter held by The Employer and no such dealing(s) reduction(s) increase(s) or other indulgence(s) or arrangements with the Contractor or release or forbearance whatsoever shall absolve the bank of the full liability to the Employer hereunder or prejudice the rights of the Employer against the bank.

4 This guarantee shall not be determined or affected by the liquidation or winding up, dissolution, or change of constitution or insolvency of the Contractor but shall in all respects and for all purposes be binding and operative until payment of all monies payable to the Employer in terms thereof.

5 The bank hereby waives all rights at any time inconsistent with the terms of this guarantee and the obligations of the Bank in terms hereof shall not be anywise affected or suspended by reason of any dispute or disputes having

been raised by the Contractor stopping or preventing or purporting to stop or prevent any payment by the Bank to the Employer in terms hereof.

6 The amount stated in any notice of demand addressed by the Employer to the Bank as liable to be paid to the Employer by the Contractor or as suffered or incurred by the Employer on account of any losses or damages or costs, charges and/or expenses shall be conclusive evidence of the amount so liable to be paid to the Employer or suffered or incurred by the Employer as the case may be and shall be payable by the Bank to The Employer in terms hereof.

7 This guarantee shall be a continuing guarantee and shall remain valid and irrevocable for all claims of the Employer and liabilities of the Contractor arising upto and until midnight of_____.

8 This guarantee is valid till _____(date to be mentioned) (Sixty days beyond the stipulated date of completion or the extended period, thereof)

9 This guarantee shall be in addition to any other guarantee or Security whatsoever that the Employer may now or at any time anywise may have in relation to the Contractor's obligations/or liabilities under and/or in connection with the said Contract, and the Employer shall have full authority to have recourse to or enforce this Security in preference to any other guarantee or Security which the Employer may have or obtain and no forbearance on the part of the Employer in enforcing or requiring enforcement of any other Security shall have the effect of releasing the Bank from its full liability hereunder.

10 It shall not be necessary for the Employer to proceed against the said Contractor before proceeding against the Bank and the Guarantee herein contained shall be enforceable against the Bank notwithstanding that any Security which The Employer may have obtained or obtain from the Contractor shall at the time when proceedings are taken against the said bank hereunder be outstanding or unrealized.

11 We, the said Bank undertake not to revoke this guarantee during its currency except with the consent of the Employer in writing and agree that any change in the constitution of the said Contractor or the said bank shall not discharge our liability hereunder.

12 We_____ the said Bank further that we shall pay forthwith the amount stated in the notice of demand notwithstanding any dispute/difference pending between the parties before the arbitrator and/or that any dispute is being referred to arbitration.

13 Notwithstanding anything contained herein above, our liability under this guarantee shall be restricted to Rs._____ (Rupees_____ _____) and this guarantee shall remain in force till_____ and unless a claim is made on us within 3 months from that date, that is before _____ all the claims under this guarantee shall be forfeited and we shall be relieved of and discharged from our liabilities there under.

Dated_____day of_____20

For and on behalf of Bank.

Issued under seal

SPECIAL CONDITIONS OF CONTRACT

1. GENERAL

1.1 Wherever any reference to any Indian Standard Specifications of BIS or other International standards of ASTM/BS/EN occurs in the documents relating to this contract, the same shall be inclusive of all amendments issued there-to or revisions thereof, if any, up to the date of receipt of tenders.

1.2 The contractor shall work according to the programme of work as approved by the Engineer-in-charge, for which purpose, the contractor shall submit a programme of the work within 07 days from the stipulated date of start of the work based on computer software and shall update the same every fortnight.

1.3 The contractor shall take instructions from the Engineer-in-charge for stacking of materials at site. No excavated earth or building materials shall be stacked on areas where the buildings, roads, services or compound walls are to be constructed.

1.4 If as per Municipal or prevailing rules of the secured campuses owned by paramilitary forces, Institutions etc, the huts for labour are not to be erected at the site of work by the contractors, the contractors shall provide such accommodation at such locations as are acceptable to local bodies with all provisions concerning labour safety & sanitation as contained in the relevant clause of the contract, for which nothing shall be payable.

1.5 Unless otherwise provided in the Schedule of quantities, the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the building and nothing shall be payable to him on this account.

1.6 The working drawings appearing at para 8.1(iii) of conditions of contract in the form CPWD-7/8, shall mean to include both architectural and structural drawings respectively. The structural and architectural drawings shall be properly correlated before executing the work. In case of any difference noticed between architectural and structural drawings, final decision, in writing of the Engineer-in-charge shall be obtained by the contractor before proceeding further.

1.7 Some restrictions may be imposed by the security staff etc. on the working and for movement of labour, materials etc. The contractor shall be bound to follow all such restriction / instructions including issue of identity cards to all persons authorized by him to do work / visit the work site and nothing shall be payable on this account.

1.8 The contractor shall make his own arrangements for obtaining electric connections, if required, and make necessary payments directly to the department concerned.

1.9 The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor (s) or by the Engineer-in-Charge and shall as far as possible arrange his work and shall place and dispose off the materials being used or removed, so as not to interfere with the operations of other contractors, or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of Engineer-in-Charge. The contractor shall be responsible for any damage due to hindrance caused by him.

1.10 Cast iron pipes and fittings without ear shall be used. However, pipes and fittings with ears may be accepted without any extra payment. In such cases, clamps are not required and no extra payment shall be made for fixing the pipes in a different manner.

1.11 Any cement slurry added over base surface for bond or for continuation of concreting, for protecting reinforcement bars, its cost shall be deemed to have been included in the

respective items, unless specified otherwise and nothing extra shall be payable nor extra cement shall be considered in the cement consumption on this account.

1.12 Stacking of materials and excavated earth including its disposal shall be done as per the directions of the Engineer-in-Charge. Double handling of materials or excavated earth if required at any stage shall have to be done by the contractor at his own cost.

1.13 No claim for idle establishment &labour, machinery &equipments, tools & plants and the like, for any reason whatsoever, shall be admissible during the execution of work as well as after its completion.

1.14 Only Star headed Stainless Steel screws shall be used unless otherwise specified.

1.15 Work shall be carried out in professional manner with finished product serving the intended purpose with specified strength, durability and aesthetics.

1.16 Work activities shall be executed in well thought out sequences such that consequent activities not adversely affecting previously done work. Nothing extra shall be payable to protect the works already done.

1.17 The contractor shall prepare all the needed shop drawings well in advance and get them approved before placing the order and execution of the item.

1.18 The contractor shall, at his risk and cost, make all arrangements and shall provide all facilities as the Engineer-in-Charge may require for collecting, and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Engineer - in -Charge and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications.

2. <u>RATES</u>

2.1 The rates quoted by the Contractor are deemed to be inclusive of site clearance, setting out work, profile, setting lay out on ground, establishment of reference bench mark(s), installing various signage, taking spot levels, survey with total station, construction of all safety and protection devices, compulsory use of helmet and safety shoes, and other appropriate safety gadgets by workers, imparting continuous training for all the workers, barriers, preparatory works, construction of clean, hygienic and well ventilated workers housings in sufficient numbers as per drawing supplied by Engineer in charge, working during monsoon or odd season, working beyond normal hours, working at all depths, height, lead, lift, levels and location etc. and any other unforeseen but essential incidental works required to complete this work. Nothing extra shall be payable on this account and no extension of time for completion of work shall be granted on these accounts.

2.2 The rates quoted by the bidder, shall be firm and inclusive of all taxes and levies.

2.3 No foreign exchange shall be made available by the Department for importing (purchase) of equipment, plants, machinery, materials of any kind or any other items required to be carried out during execution of the work. No delay and no claim of any kind shall be entertained from the Contractor, on account of variation in the foreign exchange rate.

2.4 All ancillary and incidental facilities required for execution of work like labour camp, stores, fabrication yard, offices for Contractor, watch and ward, temporary ramp required to be made for working at the basement level, temporary structure for plants and machineries, water storage tanks, installation and consumption charges of temporary electricity, telephone, water etc. required for execution of the work, liaison and pursuing for obtaining various No Objection Certificates, completion certificates from local bodies etc., protection works, testing facilities / laboratory at site of work, facilities for all field

tests and for taking samples etc. during execution or any other activity which is necessary (for execution of work and as directed by Engineer-in-Charge), shall be deemed to be included in rates quoted by the Contractor, for various items in the schedule of quantities. Nothing extra shall be payable on these accounts. Before start of the work, the Contractor shall submit to the Engineer-in-Charge, a site / construction yard layout, specifying areas for construction, site office, positioning of machinery, material yard, cement & other storage, fabrication yard, site laboratory, water tank etc.

2.5 For completing the work in time, the Contractor might be required to work in two or more shifts (including night shifts). No claim whatsoever shall be entertained on this account, not with-standing the fact that the Contractor may have to pay extra amounts for any reason, to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the Contractor with them.

2.6 All material shall only be brought at site as per program finalized with the Engineer-in-Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.

3. CLEANLINESS OF SITE

The Contractor shall not stack building material / malba / muck/ rubbish on the land or road of the local development authority or on the land owned by the others, as the case may be. So the muck, rubbish etc. shall be removed periodically as directed by the Engineer-in-Charge, from the site of work to the approved dumping grounds as per the local byelaws and regulations of the concerned authorities and all necessary permissions in this regard from the local bodies shall be obtained by the Contractor. Nothing extra shall be payable on this account. In case, the Contractor is found stacking the building material / malba as stated above, the Contractor shall be liable to pay the stacking charges / penalty as may be levied by the local body or any other authority and also to face penal action as per the rules, regulations and bye-laws of such body or authority. The Engineer –in-Charge shall be at liberty to recover, such sums due but not paid to the concerned authorities on the above counts, from any sums due to the Contractor including amount of the Security Deposit and performance guarantee in respect of this contract agreement.

4. INSPECTION OF WORK

In addition to the provisions of relevant clauses of the contract, the work shall also be open to inspection by the Engineer-In-Charge, AIIMS Raipur and other senior officers of AIIMS Raipur and his authorized representative. The contractor shall at times during the usual working hours and at all times at which reasonable notices of the intention of the Engineer-in-Charge or other officers as stated above to visit the works shall have been given to the Contractor, either himself be present to receive the orders and instructions or have a responsible Site Engineer duly accredited in writing, to be present for that purpose Senior Officers of AIIMS Raipur Authorities shall also be inspecting the on-going work at site at any time with or without prior intimation.

5. CO-OPERATION WITH OTHER CONTRACTORS/SPECIALIZED AGENCIES/SUB-CONTRACTORS

5.1 The Contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupants of the adjacent properties and to the

public in general .The Contractor shall take all care, as not to damage any other adjacent property or other services running adjacent to the plot. If any damage is done, the same shall be made good by the Contractor at his own cost and to the entire satisfaction of the Engineer-in-Charge. The Contractor shall use such methodology and equipment's for execution of the work, so as to cause minimum environmental pollution of any kind during construction. Further, the Contractor shall take all precautions to abide by the environmental related restrictions imposed by Madhya Pradesh Pollution control board, Govt. of Madhya Pradesh.

Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants / users of adjoining buildings. No claim what so ever on account of site constraints mentioned above or any other site constraints, inadequate availability of skilled, semi-skilled or unskilled workers in the near vicinity, non-availability of construction machinery spare parts and any other constraints not specifically stated here, shall be entertained from the Contractor. Therefore, the Tenderers are advised to visit site and get first-hand information of site constraints. Accordingly, they should quote their tenders. Nothing extra shall be payable on this account.

5.2 The Contractor shall cooperate with and provide the facilities to the sub-Contractors and other agencies working at site for smooth execution of the work. The contractor shall indemnify STC, BSF, authorities.

Against any claim(s) arising out of such disputes. The Contractor shall:

(i) Allow use of scaffolding, toilets, sheds etc.
(ii) Properly co-ordinate their work with the work of other Contractors.
(iii) Provide control lines and benchmarks to his Sub-Contractors and the other Contractors.
(iv) Provide electricity and water at mutually agreed rates.
(v) Provide hoist and crane facilities for lifting material at mutually agreed rates.
(vi) Co-ordinate with other Contractors for leaving inserts, making chases, alignment of services etc. at site.
(vii) Adjust work schedule and site activities in consultation with the Engineer-in-Charge and other Contractors to suit the overall schedule completion.
(viii) Resolve the disputes with other Contractors/ sub-contractors amicably and the Engineer-in-Charge shall not be made intermediary or arbitrator.

5.3 The work should be planned in a systematic manner so as to ensure proper co-ordination of various disciplines viz. sanitary & water supply, drainage, rain water harvesting, electrical, firefighting, information technology, communication & electronics and any other services.

5.4 Other agencies will also simultaneously execute and install the works of sub-station / generating sets, air-conditioning, lifts, etc. for the work and the contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings trenches etc. as may be required for such related works (for which inserts, sleeves, brackets, conduits, base plates, clamps etc. shall be supplied free of cost by the department unless otherwise specifically mentioned) and the contractor shall fix the same at time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.

5.5 The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer-in-

Charge and shall as far as possible arrange his work and shall place and dispose off the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and in a proper co-ordinate manner and shall perform it in proper sequence to the complete satisfaction of others.

6. SAFETY MEASURES AT CONSTRUCTION SITE

In order to ensure safe construction, following shall be adhered for strict compliance at the site:-

(i) The work site shall be properly barricaded.

(ii) Adequate singnages indicating 'Work in Progress – Inconvenience caused is Regretted' or Diversion Signs shall be put on the sites conspicuously visible to the public even during night hours. These are extremely essential where works are carried out at public places in use by the public.

(iii) The construction malba at site shall be regularly removed on daily basis.

(iv) All field officials and the workers must be provided with safety helmets, safety shoes and safety belts.

(v) Proper MS pipe scaffoldings with work – platforms and easy-access ladders shall be provided at site to avoid accidents.

Necessary First-Aid kit shall be available at the site.
The above provisions shall be followed in addition to the provisions of General Condition of Contract.

7. FIELD TESTING INSTRUMENTS

(Following instruments in sufficient quantity as directed by the Engineer- in- Charge shall be made available by the contractor. It shall be ensured that the instruments always remain in serviceable condition else the same will be replaced. In case of non-availability of instrument Engineer-In-Charge will purchase the same and the invoice amount will be deducted from the bill and will be bound to contractor in the interest of work.

(1) Steel tapes – 3 m / 5m / 7.5m / 15m / 30m
(2) Vernier Calipers.
(3) Micrometer screw 25 mm gauge.
(4) A good quality plumb bob.
(5) Spirit level, minimum 30 cms long with 3 bubbles for horizontal vertical.
(6) Wire gauge (circular type) disc.
(7) Foot rule.
(8) Long nylon thread.
(9) Rebound hammer for testing concrete
(10) Dynamic penetrometer.
(11) Magnifying glass
(12) Screw driver 30 cms long
(13) Ball pin hammer, 100 gms.
(14) Plastic bags for taking samples
(15) Moisture meter for timber
(16) Earth resistance tests
(17) Total station

(18) Multimeter,
(19) Meggar
(20) Refrigerant Leak detector
(21) Pipe Bender
(22) Thermometer
(23) Hygrometer
(24) CFM Meter
(25) Step Ladder
(26) Cordless drill

8. THE CONTRACTOR SHALL SUBMIT 'METHOD STATEMENT' FOR THE APPROVAL SOON AFTER THE AWARD OF WORK

'Method Statement' is a statement by which the construction procedures for important activities of construction are stated, checked and approved. Method Statement shall have description of the item with elaborate procedures in steps to implement the same. The specification of the materials involved their testing and acceptance criteria, equipments to be used, precautions to be taken, mode of measurements etc.

9. TESTING OF MATERIALS

9.1 The contractor shall arrange carrying out of all tests required under the agreement through the laboratory as approved by the Engineer-in-Charge and shall bear all charges in connection therewith including fee for testing unless specified otherwise. In all cases cost of samples and to & fro carriage shall be borne by the contractor. Contractor shall establish a laboratory at site of work at his own cost. The laboratory shall be equipped with all necessary equipment as per requirement of specification or as per direction of Engineer-in-Charge. A list of laboratory equipment to be maintained by the contractor is enclosed at Para 13 page 40 & 41. Establishing the laboratory at site shall not absolve the contractor from fulfilling the criteria of getting the test done in independent approved laboratories as per DG, CPWD, O.M. No. DG/MAN/308 dated 29.05.2014. The decision of the Engineer-in-Charge of allowing any test in the site laboratory shall be final.

9.2 Even ISI marked materials may be subjected to quality test at the discretion of the Engineer-in-Charge besides testing of other materials as per the specifications described for the item/material. Whenever ISI marked materials are brought to the site of work the contractor shall, if required by the Engineer-in-Charge, furnish manufacturer test certificate or test certificate from approved testing laboratory to establish that the material procured by the contractor for incorporation in the work satisfy the provisions of IS codes relevant to the material and/or the work done.

9.3 Substandard Material/Work: In case any material/work is found substandard the same shall be rejected by the Engineer-in-Charge and the same shall be removed from the site of work within 48 hour, failing which the same shall be got removed by the Engineer-in-Charge at the risk and cost of the contractor without giving any further notice and time.

9.4 Electrical work to be done by licensee Electrician.

FORM OF APPLICATION BY THE CONTRACTOR FOR SEEKING EXTENSION OF TIME

(PART – I)

1. Name of contractor
2. Name of work as given in the agreement
3. Agreement no.
4. Estimated amount put tender
5. Date of commencement of work as per agreement
6. Period allowed for completion of work as per agreement
7. Date of completion stipulated in agreement
8. Period for which extension of time has been given previously:

	EE's letter no. and date	Extension granted	
		Months	Days
(a) 1st extension			
(b) 2nd extension			
(c) 3rd extension			
d) 4th extension			
(e) Total extension previously given.....			

9. Reasons for which extension have been previously given (copies of the previous applications should be attached)
10. Period for which extension if applied for
11. Hindrances on account of which extension is applied for with dates on which hindrances occurred and the period for which these are likely to last.

Serial no	Nature of hindrance	Date of occurrence	Period for which it is likely to last	Period for which extension required for this particular hindrance	Overlapping period if any, with reference to item.	Net extension applied for	Remarks, if any
a	b	c	d	e	f	g	h

Total period on account of hindrances mentioned above..... Months ..... Days

12. Extension of time required for extra work.
13. Details of extra work and the amount involved:
    a. Total value of extra work
    b. Proportionate period of extension of time based on estimated amount put to tender on account of extra work.
14. Total extension of time required for 11 & 12

Submitted to the Sub Divisional Officer .....

Signature of contractor

Dated:.....

FORM OF APPLICATION OF THE CONTRACTOR FOR SEEKING RESCHEDULING OF THE MILESTONES

1. Name of contractor

2. Name of work as given in the agreement

3. Agreement no.

4. Estimated amount put tender

5. Date of commencement of work as per agreement

6. Period allowed for completion of work as per agreement

7. Date of completion stipulated in agreement

8. Rescheduling of milestones done previously

Milestone No. Already Rescheduled	EE's Letter No. and Date	Rescheduling Of Milestones Done	
		Original Date	Rescheduled Date
(A) 1st Milestone			
(B) 2nd Milestone			

Rescheduling of milestone applied for

Milestone No. For Which Rescheduling is Applied	Original/ Rescheduled Date	Details And Period of Hindrances	Comments of Superintending Engineer	Proposed Rescheduled Date of
(A) 1st Milestone				
(B) 2nd Milestone				

Submitted to the Sub Divisional Officer Signature of Contractor

Dated

GUARANTEE BOND TO BE EXECUTED BY CONTRACTORS FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF WATER PROOFING WORKS

The Agreement made this ..... day of ..... two thousand and ..... between ..... son of ..... of ..... (hereinafter called the Guarantor of the one part) and the PRESIDENT OF INDIA (hereinafter called Government of the other part).

WHEREAS this agreement is supplementary to a contract (hereinafter called the Contract) dated ..... and made between the GUARANTOR of the one part and the Government of the other part, whereby the Contractor, inter alia, undertook to render the buildings and structures in the said contract recited completely water and leak-proof.

AND WHEREAS GUARANTOR agreed to give a guarantee to the effect that the said structures will remain water and leak-proof for five years from the date of giving of water proofing treatment.

NOW THE GUARANTOR hereby guarantees that water proofing treatment given by him will render the structures completely leak-proof and the minimum life of such water proofing treatment shall be five years to be reckoned from the date after the maintenance period prescribed in the contract.

Provided that the guarantor will not be responsible for leakage caused by earthquake or structural defects or misuse of roof or alteration and for such purpose:

(a) Misuse of roof shall mean any operation which will damage proofing treatment, like chopping of firewood and things of the same nature which might cause damage to the roof;

(b) Alteration shall mean construction of an additional storey or a part of the roof or construction adjoining to existing roof whereby proofing treatment is removed in parts;

(c) The decision of the Engineer-in-Charge with regard to cause of leakage shall be final.

During this period of guarantee the guarantor shall make good all defects and in case of any defect being found, render the building water-proof to the satisfaction of the Engineer-in-Charge at his cost, and shall commence the work for such rectification within seven days from the date of issue of the notice from the Engineer-in-Charge calling upon him to rectify the defects, failing which the work shall be got done by the Department by some other contractor at the GUARANTOR'S cost and risk. The decision of the Engineer- in-Charge as to the cost, payable by the Guarantor shall be final and binding.

That if GUARANTOR fails to execute the water proofing or commits breach thereunder then the GUARANTOR will indemnify the Principal and his successors against all loss, damage, cost, expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and/or cost incurred by the Government the decision of the Engineer-in-Charge will be final and binding on the parties.

IN WITNESS WHEREOF these presents have been executed by the Obligor .....and by ..... and for and on behalf of the PRESIDENT OF INDIA on the day, month and year first above written.

Signed, sealed and delivered by OBLIGOR in the presence of

1.

2.

Signed for and on behalf of THE PRESIDENT OF INDIA by ..... in the presence of

1.

LIST OF SPECIALIZED ITEMS/JOBS

List I Civil Works

1. ** Water proofing treatment work.

2. Steel work in steel bridge work, space frames for long span structures, steel towers.

3. ** Special foundations including all types of piles.

4. RCC Overhead Tank with independent staging.

5. Structural Repair and Rehabilitation/ Retrofitting works.

6. Soil Investigation and Survey Work.

7. ** Facade cleaning system and façade cleaning.

8. Custom made wooden furniture (factory made).

9. Diaphragm walls.

10. Post construction Anti-termite chemical treatment.

11. Water Treatment Plants

12. Security to vacant bungalows/premises.

13. Tentage works.

14. Washing/dry cleaning works.

15. Synthetic play area surface for games.

16. Electronic / Digital Signages.

17. Environment Impact Assessment Study and Environment Clearance.

18. Mechanized Housekeeping Work .

Note:

**For these works, Specialized Agencies shall have to be associated by the duly approved specialized agency by Engineer-In-Charge in case the Contractor does not possess the requisite eligibility and experience as per the NIT conditions to carry out these works..

LIST OF SPECIALIZED ITEMS/JOBS
Electrical Works
LIST- II (A)

S. No. Supplying /fabrication, installation, testing and commissioning of the following

1. Kitchen equipment

2. Lifts, escalators and conveyors

3. Simultaneous interpretation systems

4. Gas plants.

5. Cold storage plant

6. Hot Water/Steam Boilers

7. Public address system; conferencing system, automatic vote recording system, recorders

8. Stage lighting

9. Projector and other special equipment for theatre

10. Repairs and calibration of various types of measuring instruments and relays etc.

11. Testing of transformer oil and dehydration and other type of high potential test.

12. Frequency Convertor

13. Temporary illumination, security lighting and wiring for power outlets for metal detectors in connection with Republic Day and Independence Day Celebrations.

14. EPBAX system (equipments).

15. EPBAX system (cabling and wiring).

16. Illumination of heritage caves and fiber optic lighting system

17. Security system and alarm

18. Building Automation System

19. Hydraulic platform /Lift

20. Incinerator

21. Laundry equipment

22. Centralized clock system.

23. Interior/exterior flood lighting of heritage/Monumental buildings/structures involving Computer aided design and evolution of special mounting arrangements for luminaries:

24. Gas pipe line

25. Modular OT

26. Electrically Operated Gate

27. Fountain Work

28. Water supply motors and pumps of 100 hp or more

29. Mechanized Car Parking Systems

30. VRV/VRF Type Air-Conditioning Systems

31. Oxygen Generation Plant

32. CCTV and Allied Equipments

33. Access Control System

34. Hydro Pneumatic Pumps

35. Providing and fixing of Sensor operated Gates

36. Precision Air Conditioning System

37. LAN System

38. SITC of active power factor filter

39. SITC of Solar Photo Voltaic Power generation system

LIST-II (B)

S. No. Supplying /fabrication, installation, testing and commissioning of the following

1. Diesel Generating Set

2. Heating, Ventilation and Air-conditioning System

3. Sub-station equipment

4. Fire fighting system (including wet riser and sprinkler system, portable fire extinguishers)

5. Fire detection and alarm system

List -III Horticulture Works

(1) Construction of Vertical Green Wall.

LIST -IV Concurrent list of specialized items/ jobs

(1) Sewage Treatment Plant

(2) Outsourcing of Day to Day Maintenance Work*

*Note:

(a) For Outsourcing of Day to Day Maintenance Work, Provision is to be made in the NIT for specialized agency duly approved by Engineer-In-Charge, not having the requisite eligibility and experience as per the NIT conditions, to execute the Comprehensive Maintenance Work by associating Agencies Specialized in Day to Day Maintenance Work.

(b) Outsourcing of Day to Day Maintenance Work is the "Specialized Work" for the purpose of association only and not for awarding work on standalone basis.

NO CLAIM CERTIFICATE

(On company letterhead)

To,

The Superintending Engineer,

Project Cell, AIIMS, Raipur

Name of Work-

Agreement No. -

Sub: No claim declaration / certificate

We have received the sum of Rs. (Rupees ..... only) in full and final settlement of all the payments due to us for the above stated work under the above mentioned contract agreement, between us and AIIMS, Raipur. We hereby unconditionally, and without any reservation whatsoever, certify that with this payment, we shall have no claim whatsoever, of any description, on any account, against Procuring Entity, against aforesaid contract agreement executed by us. We further declare unequivocally, that with this payment, we have received all the amounts payable to us, and have no dispute of any description whatsoever, regarding the amounts worked out as payable to us and received by us, and that we shall continue to be bound by the terms and conditions of the contract agreement, as regards performance of the contract.

Yours faithfully,

Signatures of contractor

or Officer authorised to sign the contract documents

on behalf of the contractor

(Company stamp)

Date: .....

Place: .....

APPROVED MATERIALS LIST (CIVIL)

Note:

1. Unless otherwise specified, the brand/make of the material as specified in the item nomenclature or in the particular specifications or in the list of approved materials attached in the tender, shall be used in the work.
2. The Contractor shall obtain prior approval from the Engineer-in-charge before placing order for any specific material/ Brand/ Make.
3. Whenever the specified brand of material is not available then, the Engineer-in-charge may approve any material equivalent to that specified subject to proof being offered by the Contractor for its equivalence and its non-availability to his satisfaction.

1.	Acid/Alkali Resistant Tile	Somany/ Nitco/ Kajariya/ Bell
2.	Premium Acrylic Emulsion Paint: Interior	Asian (Royale)/ ICI (Velvet)/ Berger (Luxol Silk)/ Nerolac Impression
3.	Admixures& Epoxy	FOSROC/ Aquomix/ BAL-ENDURA/ROFF/Dr.Fixit/CICO/SIKA/BASF
4.	Aluminium Composite Panel	Alpolic/ Aluco Bond/ Reynobond/ Euro bond/ Al-strong/Aludewr
5.	Aluminium Extrusions/ Sections	Hindalco/ Indalco/ Jindal/Indian Aluminium Co.
6.	P.T.M.T. Accessories	Prayag, PRAKASH, SHURYA/Supreme/Kingston
7.	Annealed Float Glass	Saint Gobain/ Modi Guard/ Hindustan Pilkington/TATA
8.	Centrifugally Cast Iron Pipe & Fittings	Neco/ RIF/ Kapilansh/ BIC/SKF/Electrosteel
9.	Ceramic Tiles	Kajaria/ Somany/ Nitco/ Orient Bell/ Johnson/Varmora/AGL/OASIS/Marbito
10.	Cement Concrete Chequrred tiles	Raj-Tiles/ Bharat/ Rigid Tiles/Advance/Ultra Tiles/NITCO
11.	CP Bottle Trap	Parryware / Hindware/ Jaquar/ GRAFDOER by VMS BathwarePvt. Ltd.
12.	CP Brass Bibcock/ Pillarcock/ Stopcock/ Angle Valve/ Concealed Stop Cock & CP fittings (Normal Range)	Marc(oriental series)/ Parko/ Jaquar (Continental series)/SPRING COLLECTION OF PRIMA /GEM/ESS/Plumber/ GRAFDOER by VMS BathwarePvt. Ltd. /L&K Metro/Vardhman/'Coral' series of parryware/'JOY' & 'VINTAGE' series of KEROVIT by Kajaria
13.	CP Waste Coupling	Mark/ GRAFDOER by VMS BathwarePvt. Ltd./ Parko or equivalent
14.	Curtain Carrier	Vista levlor or equivalent.
15.	Dash fastener/ Expansion Bolt/Stone Cladding Clamp	M/s DevAshish/HILTI/Fischer/Bosch/Wurth/Trixel.
16.	Door closer/ floor springs	Dorma/ Haffle/ Falcon/Godrej/Dorset/Kich/Sandhu/Hardwyn
17.	Drapery Rod	Vista Levlor or equivalent.
18.	Flushing cistern (single/Dual Flush) as per IS: 7231	Sleek Dual flush PVC cistern of Hindware / 'Slimline'ofParryware.
19.	EPDM Gasket	AnandLescuyer or equivalent.
20.	Epoxy Primer & Paints	Berger/ Pidilite/ CICO/ BASF/ SIKA/Asian/Nerolac/ICI Kansai Akzo Nobel.
21.	Fibre Glass Shelf	Kamal/ Bath King or equivalent.
22.	Float/Clear/Frosted/Toughened/Refractive Glass	Modi Float/ Saint Gobain/ Asahi/AIS/Modiguard.
23.	Flush Doors / Shutters as per IS: 2202	Kutty flush door/ Anchor/ Century/ Kitlam/Archid/JAYNA/Ashiyana Brand by Evergreen Industries/ Bhimsaria Door/ Century/ Greenply

		/Archid/Kitply/Selected Products Company/Jain Doors pvt. ltd./Duro/Durian
24.	Flush Valve	Aquel/ Marc/ Parryware/ Jaquar.
25.	FRP Shutters/frame	Fibre Glass Engineers/ Raipur/ Aashoo Model or equivalent/JAYNA/ Selected Products Company.
26.	Galvanized/Stainless Steel Anchor Fasteners	Shakti/ Arrow/ Hilti/ Fischer
27.	GI fitting	Tata/ Jindal/ Zenith/UNIK/AVR/Zoloto.
28.	GI Pipe	Tata/ Zenith/ Jindal (HISAR)/Prakash Surya.
29.	Glass Mosaic Tile	Bissazza/ Saon or equivalent.
30.	Gun Metal Gate Valve	Zoloto/ Leader/ SAINT
31.	False Ceiling system	Boral Gypsum / India Gypsum/ Laffarge/ St. Gobain (Gyproc)/ Armstrong/Hunter Dougals/Aearolite/ Gridsquare/Interarch
32.	Hardner	Hard crete of Snowcem India/ MC Deritop F.H.
33.	Jet Assembly for EWC	Parryware/ Jaquar/ Grohe/ Kohler
34.	Laminate	Marino/ Greenlam/ Decolam/ Century/ Formica/ Kitlam/Action TESA/Sunmica/Durian
35.	Low Level PVC Cistern Single flush	Sleek model Cistern of PVC of Hindware or 'Slimline' model of Parryware, JINDAL.
36.	Melamine Polish	Melamine Gold of Asian Paint/Wudfinof pidilite/Timbertone of ICI Dullex/ Beegel.
37.	Metal False Ceiling	Nittobo / Armstrong / Trac / Durlum / Huntordonglas/Aerolite
38.	Mineral Fibre/Calcium silicate Ceiling	Armstrong / Nitobo / Daiken / Hunter Douglas/ Aerolite
39.	Modular SS Railing System	Metallica India / Stark steel Fabricator / D-line International Denmark / Mobel Hardware.
40.	M.S .Pipe (Railing)	Jindal / Prakash Surya/ Tata/ RINIL
41.	Marine Plywood / BWP Ply	Kitply / Duro / Century/ Greenlam/ Durian
42.	Non asbestos high impact polypropelene reinforced Cement sheet	Everest or equivalent
43.	Oil Bound Distemper/Dry Distemper	Asian (Professional Acrylic Distemper)/Maxilite of ICI / Bisan of Berger/Nerolac (Beauty Acrylic Distemper)
44.	Water closet (Orissa Pan/Indian type) & fittings, accessories as per IS : 2556	Parryware / Hindware /'KEROVIT' by Kajaria/ESSCO by Jaquar.
45.	PE-AL-PE Composite pipes	Jindal or equivalent.
46.	Plastic Connection Pipe	Parryware/Kamal Delux or equivalent.
47.	Plywood/Veneer	Archid/ Kitply/ Green ply/ Century/JAYNA/Green Ply/Merino/Duro/Durian
48.	Polyester Powder Coating	Nerolac/ Berger/ J&N
49.	Poly Sulphide Sealant	PIDISEALbyM/s Pidilite Industry/RDL941-TECHSEALChokseyChemicals/BASF/SIKA/Fosroc
50.	Polymer Modified Cementitious grout	BalEndura/ PidiliteKeroKoal/Ultratech/Ardex/Ferrous Crete.
51.	Pre-laminated Particle Board IS : 12823 (Gr-I/ Type-II)	Kitlam/ Tesa/ Archidply/Eco brand/Century/Bhutan board/Action Tesa/Greenlam/Merino
52.	Primer (Cement Primer)	Decoprime WT of Asian/ white primer of ICI/BP white of Berger/ Nerolac
53.	PVC Rain Water Pipe & Fitting	Finolex/ Classic of Kisan/ Kasta/ Supreme/AKG.
54.	PVC Shutter and frames	Rajshri/ Sintex/Polyline/Duroplast/Jain wood Industries.
55.	PVC Tiles	Arm Strong/ LG or equivalent.
56.	Screws	GKW / Nettle Fold or equivalent.
57.	Silicon Sealant	G.E./ DOW Corning/Waker/BASF/Pidilite/ROFF

58.	Solid Plastic Seat Cover for EWC	EWC standard seat cover white of Parryware/Hindware/'KEROVIT' by Kajaria
59.	Stainless Steel	Jindal Stainless Steel/ Salem Steel
60.	Stainless Steel Screws	Kundan/ Arrow or equivalent.
61.	Stainless steel Sink with or without Draining board.	Nirali/ Hindware/ Frankee/ Cobra/AMC/ GRAFDOER by VMS BathwarePvt. Ltd./Parryware/Neelkanth/Nirali
62.	Structural Silicon Sealant	Dow Corning/ Wacker/ GE/ Du-pont
63.	Structural steel	TATA/ SAIL/ RINL/TISCO/JSW Steel ltd./Jindal steel & Power ltd.
64.	Super plasticizer	MC Baucheme/ Sika/ Fosroc
65.	Synthetic Enamel Paints	Gloss Synthetic Enamel of ICI(Dulux)/Asian (Apcolite Premium gloss)/Berger (Luxol Hi Gloss)/ Synthetic Hi Gloss of Nerolac
66.	Terrazzo tiles /Mosaic Tiles	Raj-Tiles/ Bharat/ Rigid Tiles/NIC/A-1/GTC
67.	Cement Concrete Paver Block &Kerb stone	Rigid Tiles/ Raj-Tiles/Advance
68.	Textured Exterior wall paint	Spectrum/ Ultratech / Heritage by Bakelite coating and paints/Asian paint/Berger/Nerolac/Luxture.
69.	Towel Ring/Towel Rod/Towel Rack	Kamal/ Marc or equivalent.
70.	Pre-Painted/powder coated CRC windows	M/s classic engineers and fabricators/ M/s JK Enterprises Jaipur/ Nclalltek&seccolor ltd. Hydrabad/ ultimate safety metals.
71.	Veneer	Archid/ SUN/ Durian/ Ventura/ NLDK
72.	Virtuosos China Wash Basin Oval	Hindware / Parryware /KEROVIT' by Kajaria/CERA/Jaguar/ESSCO by Jaquar.
73.	Vitreous China Floor moulded European with Cistern Complete	Parryware / Hindware /KEROVIT' by Kajaria/ CERA/Jaguar/ ESSCO by Jaquar.
74.	Vitreous China Floor Mounted European W.C. without cistern	Parryware / Hindware /KEROVIT' by Kajaria/ CERA/Jaguar/ ESSCO by Jaquar.
75.	Vitreous China Half stall Urinal	Model No. 6002 Urinal flat back large of Hindware or magnum of Parryware/ ESSCO by Jaquar.
76.	Vitreous China laboratory Sink	Hindware / Parryware /KEROVIT' by Kajaria/ CERA/Jaguar/ ESSCO by Jaquar.
77.	Vitreous China Low Level Cistern for European W.C.	Hindware / Parryware /KEROVIT' by Kajaria/ CERA/Jaguar/ ESSCO by Jaquar.
78.	Vitreous China Pedestal for Wash Basin	Pedstal of Parryware / Hindware or equivalent/ CERA/Jaguar/ ESSCO by Jaquar.
79.	Vitreous China Wall Mounted W.C. with vitreous Cistern (component)	Parryware / Hindware /KEROVIT' by Kajaria/ CERA/Jaguar/ ESSCO by Jaquar.
80.	Vitreous China Wall Mounted W.C. without Cistern.	Parryware / Hindware /KEROVIT' by Kajaria/ CERA/Jaguar/ ESSCO by Jaquar.
81.	Vitreous China Wash Basin Rectangular without Pedestal	Hindware / Parryware /KEROVIT' by Kajaria/ CERA/Jaguar/ ESSCO by Jaquar.
82.	Vitrified /Porcelain Tile	Marbogranit/ Euro/ Somany/ diamond of Naveen /Granamite of Bell /OASIS/ceramic/ Granito/ Kajaria/ M/s Restile//Rak/ Johnson/Nitco/ Varmora/AGL/Marbito.
83.	Waste Pipe	Kamal with brass checknut/Viking
84.	Water Proofing Compound (Liquid)	Pidiproof Ltd./CICO/ Super plast by M/s Structural water proofing/ Impermo/FOSROC/Dr.Fixit (Pidilite Industries))/BASF/ROFF/SIKA/ArdexEndura (BalEndura).
85.	White Cement	JK White/ Birla White.
86.	CPVC Pipes as per IS: 15778	AKG/Ashirvad/PRIME FLOW OF KRISHI POLYMERS/Supreme/KSR by Kisan irrigation/Flowguard plus by finolex/Prince

87.	Teak wood/hard wood wire mesh & panel doors	A-1 Teak product Indore or equivalent.
88.	Reinforcement steel	Tata/Sail/RINL/Jindal/Jindal steel & power ltd.
89.	Block Boards as per IS: 1659	JAYNA/Century/Greenply/Archid/Kitply or equivalent.
90.	Brass bib cocks/stop cock	Marc/Parko/Jaquar/SPRING COLLECTION OF PRIMA as per IS : 781 or equivalent.
91.	Brass ball cocks (Float valve)	Marc/Parko/Jaquar /SPRING COLLECTION OF PRIMA as per IS:1703 or equivalent.
92.	Water meter	SPRING COLLECTION OF PRIMA as per IS: 779 or equivalent.
93.	HDPE Pipes as per IS:4984	KRISHNA plast pipes/KSR by Kisan irrigation/Supreme/Reliance/Jain
94.	uPVC Pipes as per IS: 4985	KRISHNA plast pipes/AKG/ KSR by Kisan irrigation/Supreme/Astral/Prince/Ashirwad
95.	uPVC Screen and casing pipes for bore well/tube well as per IS : 12818	KRISHNA plast pipes/KSR by Kisan irrigation/Supreme.
96.	uPVC-SWR Pipes SN 8 as per IS: 13592	KRISHNA plast pipes/KSR by Kisan irrigation/Finolex/AKG/Supreme/Prince/Ashirwad/ Astral
97.	Wooden Shutter with frame	Siesto Brand by Bramsaria doors or equivalent.
98.	uPVC Windows/Doors	SIESTO Brand by Bhimsaria, Polymers/Duroplast/ Fenesta/Komerling/Wintech/Aluplast
99.	Cement (OPC/PPC)	A.C.C., Jaypee Cement, Ultratech, Shri Cement, Gujrat Ambuja Cement and Cement Corporation of India.
100.	Corrugated GI Sheets	Tata, Essar , Sail JSW, Bhusan
101.	Colour coated profile sheets	Tata (Ezydeck)/Lloyd Superdeck/JSW/Jindal
102.	Float Glass Profile Sheet TATA (transparent)	Tata, Modiguard, Saint Gobain
103.	Aluminium doors & window fittings (Heavy duty)	Jyoti , Argent, Everest/Kilong/Alualpha/classic/Ebco
104.	Steel/Wood primer / paint	ICI delux, nerolac, berger, asian
105.	Bitumen 85/25	HPCI, IOCL
106.	PVC water storage tanks	Sintex, water well, Siltank, Polywell/Plasto/ 'SILTANK' by Supreme
107.	Bitumen VG-30, VG-10 etc.	As per particular specification of item from IOCL, BPCL, HPCL.
108.	Rigid Phenolic foam for cold and hot insulation as per IS: 13204	Phenotherm manufactured by Bakelite Hylam ltd
109.	Surface Texture Finishes	Heritage manufactured by Bakelite Coatings & paints ltd. or equivalent
110.	FRP Chhajjas	Selected Products Company or equivalent.
111.	FRP Porta cabin	Selected Products Company or equivalent.
112.	G.I. Wire-mesh/Netting	Selected Products Company or equivalent.
113.	Wall Putty (White Cement based)	Buildwell (Walplast Products Pvt. Ltd.)/Birla wall care/JK white/Berger/Asian paints/ferrous Crete
114.	AAC block	'Ecorex' manufactured by EcorexBuildtechpvt. Ltd. or equivalent.
115.	UPVC Agriculture/Pressure pipes and fittings	AKG Extrusion Pvt Ltd. or equivalent.
116.	UPVC underground drainage & sewerage pipes SN 8 as per IS:15328	KSR by Kisan irrigation/Finolex/AKG/Supreme.
117.	Fabrication of aluminium& UPVC doors, windows, Facades including ACP and glazing work	Skyler World or equivalent.

118.	Fabrication of aluminium structural glazing and aluminium doors & windows.	KANHA ALU AND FAB PVT. LTD., Raipur or equivalent.
119.	Processing and fabrication of glass (toughened, DGU and lamination	Wadhwa Glass Works (P) Ltd., Raipur or equivalent.
120.	Glass reinforced Gypsum (GRG) false ceiling	'Diamond' manufactured by Diamond International Inexpvt. Ltd/Gyproc by Saint Gobain.
121.	Wooden shutter with frame	'Bhimsaria' or equivalent
122.	PPR-C pipes as per IS: 15801	KSR brand/Supreme
123.	PVC fittings as per IS: 10124 and IS: 7834	KSR brand or equivalent
124.	PVC underground draingae pipes (structured wall type) as per IS: 16098	Supreme or equivalent
125.	PVC septic tanks	'Safegard' by Supreme or equivalent
126.	PVC underground water tanks	'Amrutam' by Supreme or equivalent
127.	PVC readymade toilet blocks	'Cleanage' by Supreme or equivalent
128.	PVC chambers & Manholes	Supreme or equivalent
129.	Pre-Painted/powder coated CRC windows	M/s classic engineers and fabricators/ M/s JK Enterprises Jaipur/ Nclalltek&seccolor ltd. Hydrabad/ ultimate safety metals.
130.	White cement based polymer modified self curringmortor	Ultratech/Dr.Fixit/ Sika/ Fosroc
131.	Gypsum plaster	Ferrous crete/ Gyproc (Elite-90)/ Ultratech
132.	Tile Adhesive	Ferrous Crete / Ardex/ Endure (Gold Star)/ Pidilite (Fevimatex)/ Weabr (Saint Gobain)
133.	Integral water proofing compound with cement (for plaster & mortar)	FOSROC/ Conplast 421/Dr.fixit : LW+/ Sika : sikacim/Asian Paints: Smart care vitalia& equivalent product of BASF/CICO/ArdexEndura
134.	Water proofing for bathroom/toilet/balcony & other wet areas.	Fosroc: Brush Bond/CICO:Tapecrete/Dr.fixti : Pidilite 2k/Sika: Nito Bond/Asian Paints: Damp Block 2k & Equivalent Product of BASF/Ardex endure
135.	Crystalline water proofing compound.	Fosroc : Fosroc crystalline/Dr.Fixit: Dr.fixit crystalline/Sika: Sika Crystalline/Asian Paints:Crystalline Quart & Equivalent Product of BASF/CICO/ArdexEndura
136.	Polycarbonate sheet	GE Plastic/Lexan/MG Polyplast
137.	Fire rated doors	Signum fire protection/Shakti Metdoor/NAVAIR/Sukri/Promat International
138.	Stainless steel railing Accessories	Jindal/Dorma/Kich/GEZE/Godrej/Hardwyn
139.	Stainless steel door & windows fittings	Jindal/Dorma/Kich/Dorset/Godrej/Ozone
140.	Acrylic Distemper 1st quality (washable/Readymix/Low VOC)	Asian Paints (Tractor Aqua Lock Paint)/ Berger: commando or equivalent paints of Nerolac or ICI-Dulux.
141.	Plastic emulsion plaint	Asian paint: (Apcolite Heavy Duty Premium Emulsion paint)/ Nerolac :Impressio/Berger:Easy clean/ICI-Dulax:Velvet touch
142.	Acrylic Smooth Exterior Paint	Asian Paint : (Apex/ Professional Premium Exterior Emulsion/ Nerolac: XL/Berger: Weather coat/ICI-Dulux: Weather Shieled
143.	Premium Acrylic Smooth Exterior Paint with Silicon Additive	Asian paint:Apex Ultima/Nerolac: XL Total/Berger: Weather coat all guard/ICI dulux: Weather Shield max
144.	Fire paint	Asian paints/Akzo Nobel Coatings India ltd./ PROMAT/Jotun

145.	D.I. Pipes & fittings	Electrosteel/Jindal/Tata Ductura/Kapilansh/Kesorom
146.	C.I. manhole covers, frames & CI Gratings	Neco/Raj iron Foundary Agra/BIC/SKF/Kapilansh
147.	SFRC manhole cover & Grating	K.K./Jain Pragati
148.	C.P. Brass fittings (Superior Range)	Jaquar/Grohe/Roca
149.	Sanitary ware fittings & Accessories (Superior range)	Kohler/Roca/Hindware/Parryware
150.	Mirror glass	Atul/Modi Guard/Golden Fish
151.	Extruded Polystyrene Insulation Board	Dow Corning/Supreme/Taxes/Analco
152.	Heat Resistant Tiles	Swastik/Thermatek
153.	Floor Hardener	Ironite/Ferrok/Hardonate
154.	Modular Expansion Joint	Herculus/Sanfield India Ltd. Vexcolt
155.	Glass Wool	Dow Coring/ U.P. Twinga/Isover
156.	UPVC Doors and window hardware	Rotto/Dorset/Kinlong
157.	AAC Block adhesive	Ecorex/Ultratech/ArdexEndura/Ferrous Crete
158.	Ready Mix Plaster	Ultratech/Ferrous Crete/Saint Gobain
159.	Post tension slab	Ultracon technology limited/Tech-9/CRUX
160.	Acoustical Wall paneling	Hush or equivalent to be decided by Engineer-in-charge.

APPROVED MATERIALS LIST (ELECTRICAL)

1. Unless otherwise specified, the brand/make of the material as specified in the item nomenclature or in the particular specifications or in the list of approved materials attached in the tender, shall be used in the work.
2. The Contractor shall obtain prior approval from the Engineer-in-charge before placing order for any specific material/ Brand/ Make.
3. Whenever the specified brand of material is not available then, the Engineer-in-charge may approve any material equivalent to that specified subject to proof being offered by the Contractor for its equivalence and its non-availability to his satisfaction.

Sl. No.	Item	Acceptable Makes
1	PVC insulated Copper wire / Telephone wire	KEI / HAVELLS / RR Kabel / Polycab / Finolex/ Anchor/ (All with ISI Marked)
2	MCCB / Switch Gear with Thermomagnetic releases	L&T/Seimens/Legrand / Schneider/Hager/ABB/ GE/C&S Electric
3	MCCB with Variable microprocessors based realeases (o/c, s/c, e/f)	L & T (D-Sine) , ABB (ISO Max), Siemens, Schneider (NS Compact), GE (Recold Plus), Legrand (DPX)
4	MCB / MCB Prewired DB / RCCB/ Industrial Socket not less than 10 K.	Legrand / L&T / Hager / Seimens / Schneider/ Havells/ ABB/HPL
5	Steel Conduit.	BEC / AKG / MK / Rama / Finolex
6	PVC Conduit	BEC,AKG, MK, Anchor, Finolex, Steel Craft, Saraswati, Swastik , Polycab
7	Casing Caping	Saraswati, Polycab, Precision, Astral
8	Call Bell / Buzzer / Ceiling rose / Electronic Regulator.	Anchor / Vinay Clair / Polo Rider / North West.
9	Brass Batten / Angle Holder.	Kinjal / Antex / Emperor.
10	Modular Switch / Socket / Blanking Plate /PVC Box / Metal (GI)Switch Box (the gauge of GI Box shall not less than 16 SWG/1.2mm, depth≥60mm & of the same make that of Switch) Front Plates, Telephone, T.V. Outlets Socket / Fan Regulator.	Crabtree (VERONA), Anchor (Vision), L&T(Entice), MK (Citric), Legrand (Myrius), Schneider (Opale).
11	Lamp for (light fittings)	Philips / Osram/ GE/ Bajaj/ Wipro/Crompton.
12	XLPE insulated PVC sheathed 1.1 KV grade Al. conductor armoured UG cable.	Finolex/ Cable Corporation of India / R.R. Kabels/ Universal Cable/Havells/KEI/ Polycab.
13	Galvanize Octagonal Street light pole/ High Mast & galvonised bracket.	Bajaj/ Transrail/ Valmont/Aster.
14	HRC Protection Fuses/ Fuse Fittings.	Siemens/ L&T/ Schneider /ABB

15	Selector Switches/ Indicating Lamps (LED type)	AE/ Enercon/ L&T/ Neptune/ Conserve/ Secure/ Keycee/ Vaishnav
16	Digital Ammeter/ Voltmeter	Conserve/ Secure/Enercon/AE/ MECO/ Universal/ Rishab/ Yokins
17	Current. Transformer	L&T/ A.E./ Kappa/ IMP/ GE or equivalent
18	LUGS, Thimble, Cable Glands	Dowels/ Multi/ COMET/ Hex/ Jhonson / Gripwell/Comex/Comed
19	Timer	L&T/ Siemens/ Schinder/ Hager/ Legrand
20	Modular Blanking Plate	Clipsal, Crabtree, MK, Anchor, Legrand, L&T, ROMA, Siemens Northwest
21	G.I. Pipe	Jindal/ Tata/ Prakash/Surya
21	Power contactor	L&T / Siemens / Schinder/Legrand /ABB
22	Fluorescent Tube Fittings	Surya, Keslec, Trilux, Bajaj, Osram, GE , Wipro, Crompton Philips
23	Tap-off Box (Plug in Type), End Feed Unit	C&S Electric & Switchgear, L & T, ABB, Siemens, Schneider, Tricolite
24	LT Panels / Feeder Pillars / Floor Panels for upto 400A i/c switchgear	L & T, ABB, Siemens, Schneider, Tricolite, Adlec, CRS, Sudhir, Jakson, Advance Panel (Narela), Adhunik, Havells.
25	MPCB	L&T, ABB, Siemens, Schneider
26	LED fittings	Havells/Wipro/CGL/Philips/Bajaj/Osram
27	LED Make	Nichia / citizen/ Lumileds / APT Electronics/Cree/Osram /Bridgelux.
28	UPVC Wall Trunking	Legrand /OBO/MK(Honeywell)
29	Antibacterial Modular Switch / Socket / Blanking Plate /Front Plates/Telephone, /T.V. Outlets Socket / Fan Regulator.	MK/Honeywell, Legrand (Arteor), Hager (Insysta).
30	Hermitically sealed sliding door	Metaflex/Dortek/Dandoor/Infraca/ MTH or equivalent

APPROVED MATERIALS LIST (AC & R)

1. Unless otherwise specified, the brand/make of the material as specified in the item nomenclature or in the particular specifications or in the list of approved materials attached in the tender, shall be used in the work.
2. The Contractor shall obtain prior approval from the Engineer-in-charge before placing order for any specific material/ Brand/ Make.
3. Whenever the specified brand of material is not available then, the Engineer-in-charge may approve any material equivalent to that specified subject to proof being offered by the Contractor for its equivalence and its non-availability to his satisfaction.

S.no.	Item	Acceptable Makes/ Manufactures
1	Air conditioner	DIAKIN / HITACHI /MITSUBISHI /O General /BLUE STAR /CARRIER
2	INSULATION:-	
a	FIBREGLASS	FGP / UP TWIGA / KHIMCO
b	EXPANDED POLYSTYRENE	BEARDSELL / COOLINE
c	EXPANDED POLYETHYLENE	NIKIFOAM / PROFEEL /Supreme/EQVT
d	NITRILE FOAM	AEROFLEX / Supreme/ ARMAFLEX /Totaline/Thermo flex
3	GRILLES / DIFFUSERS	COSMOS / DYNACRAFT/ CARYAIRE/
4	PRE-FILTERS	KIRLOSKAR / DYNA / KLENZAIDS /AIRTECH
5	Power and control CABLES	KEI/Finolex/RR Kabel/Havells/polycab
6	Drain Piping	SUPREME / PRINCE / Apollo/Dutron/Ashirvad/Finolex/Astral
7	Ventilation/Exhaust fans	KRUGER / COMEFRI /NICOTRA /Usha/ Crompton/ Havells/ GE/ Bajaj
8	Copper piping	MANDEV/RAJCO/MEHTA/Totaline/Godrej
9	PVC insulated Copper wire (FRLS), Cables / Telephone wire	Havells / RR Kabel / Polycab / Finolex/ Anchor/ L&T (All with ISI Marked)
10	Circuit breakers/MCB / MCB DB's / RCCB	Legrand / L&T / Hager / Seimens / Schneider/ MDS/ GE/ Hager/ ABB
11	Industrial Socket	MDS/ HAVELLS/ Hager/ ABB
12	PVC Conduit	AKG/ MK/ Anchor/ Finolex/ Steel Craft/ Saraswati/ Swastik
13	Casing Caping	Saraswati/ Polycab/ AKG
14	LUGS, Thimble, Cable Glands	Dowels/ Commet/ Hex/ Jhonson / Gripwell/ Comex/Comed
15	Duct sheet metal	Sail/Jindal/Tata/Hindalco/JSW

LIST OF APPROVED MAKES OF MATERIALS

MANUAL FIRE ALARM SYSTEM

1	Fire alarm Zonal Panel, Main Control Panel , sounder MCB, Talkback unit/ **Response Indicator/**Detector	Agni Instruments Engineers India Pvt ltd Okhla New Delhi/ Safeway Security System / Electroquip / Steel age Industries (Minmax)(Honeywell)/Edward
2	Amplifier/Microphone/Hooter	Ahuja/Philips/ **Agni Instruments Engineers / Safe way security System / Agni suraksha**
3	CO2 fire extinguisher	Minimax/Safex/Ceasefire/Kanex(All with ISI marked)
4	**Smoke detectors**	**Apollo series 65 / system sensor**

1) **If any makes stated above does not comply with the technical specifications given in the tender then such a make shall not be allowed.**
2) **If for any Material Makes not given. It should be got approved from the Engineer-in-charge.**

LIST OF APPROVED MAKES OF MATERIALS (Wet Riser System)

SNo	Details of Equipment / materials	**Make**
1	**Terrace Monoblock pump set**	Kirloskar model – KDS- or similar model of Mather & Platt / Jyoti / Beaconweir or equivalent
2	**MS Pipe / GI Pipe**	Tata / Jindal (Hissar)/ SAIL (all with ISI marked) or equivalent
3	**CI Butterfly valve.**	Audco / Advance / Kirloskar / SANT./KARTAR or equivalent
4	**CI Non return valve**	Kirloskar / Kalpna/ Indian Valve company / SANT./KARTAR or equivalent
5	**Landing valves/ Hydrant valves**	Newage / Minimex / Padmini / Getech. or equivalent
6	**Gun metal branch pipe**	Minimax / Newage / Padmini / Getech. or equivalent
7	**RRL Hose pipe**	Newage / Minimex / Padmini / CRC or equivalent
8	**Hose Cabinet**	Minimax / Newage / Padmini / CRC/Getech. or equivalent
9	**FBC**	Minimax / Newage / Padmini / CRC/Getech. or equivalent
10	**First Aid hose reel.**	Jyoti / CRC/ Padmini / Maruti or equivalent
11	**Hose reel drum**	Minimax / Newage / Padmini / Getech or equivalent
12	**Gun metal valves**	Sant / Leader / Kirloskar / Zoloto or equivalent
13	**Pressure gauge**	Feibig / H.Guru / indfos or equivalent
14	**Pressure Switch**	Danfoss / Ranutrol or equivalent
15	**Electrical panel**	Any CPRI approved manufacturer.
16	**MCCB/MCBs**	L&T/ Legrand / Siemens/ Schneider. or equivalent
17	**Starter**	L&T / Siemens / ABB/ C & S. or equivalent
18	**Digital Voltmeter / Ammeter**	AE/L&T. or equivalent
19	**Selector Switch**	Kaycee / L&T / AE or equivalent
20	**Indicating lamp**	L&T / Siemens / BCH / Kaycee or equivalent
21	**CTs**	AE/L&T / Kappa or equivalent
22	**Pendent Sprinkler**	Agni suraksha/ Newage/ safex/ aquaflex
23	**Sprinkler Flexible Pipe**	Agni suraksha/ Newage/ safex/ aquaflex

1) If any makes stated above does not comply with the technical specifications given in the tender then such a make shall not be allowed.

If for any Material Makes not given. It should be got approved from the Engineer-in-charge.

PROFORMA OF SCHEDULES

(CIVIL, ELECTRICAL/AC & R/)

SCHEDULE 'A'

Schedule of quantities (as per PWD-3)	:	(**Attached in e-procurement site**)

SCHEDULE 'D'

Extra schedule for specific requirements/ document for the work, if any.	:	**Nil**

SCHEDULE 'E'

Reference to General Conditions of contract	:	CPWD General Conditions of Contract 2019 (Construction) modified and amendment up to the last date of submission of tender.
Name of work	**:**	"**CONSTRUCTION OF RENAL TRANSPLANT WARD, NEPHROLOGY AND UROLOGY OPD AT C C1 BLOCK, AIIMS RAIPUR**."
Estimated cost of work	:	**Rs 12238649.00**
(i) Earnest money	:	**EMD Declaration Form (As per Annexure-H)**
(ii) Performance Guarantee	:	3% of tendered value.
(iii) Security Deposit	:	2.5% of tendered value.

SCHEDULE 'F'
GENERAL RULES & DIRECTIONS:

Officer inviting tender	**:**	**Superintending Engineer on behalf of Director AIIMS Raipur.**
Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3.	**:**	See below

Definitions:

2(v) Engineer-in-Charge	**:**	**Superintending Engineer, AIIMS Raipur (C.G)**
2(viii) Accepting Authority	**:**	**Director, AIIMS Raipur (C.G)**
2(x) Percentage on cost of materials and labour to cover all overheads and profits	**:**	**15%**
2(xi) Standard Schedule of Rates	**:**	**As per DSR Civil 2021, Electrical & AC&R 2018 (up to date of submission of NIT) & Market Rates**
2(xii) Department	**:**	**Project Cell, AIIMS Raipur.**

9(ii) Standard CPWD contract Form : **GCC 2019 & CPWD Form 7/ 8 as modified & corrected up to last date of receipt of Bid/tender.**

CLAUSE 1

(i) Time allowed for submission of Performance Guarantee, programme chart (Time and progress) and applicable labour Licenses, registration with EPFO, ESIC and 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% per day of Performance Guarantee amount beyond the period Provided in (i) above : **07 Days**

CLAUSE 2

Authority for fixing compensation under clause 2 : **Superintending Engineer / Director, AIIMS**

CLAUSE 5

Number of days from the date of issue of letter of acceptance for reckoning date of start : **14 Days**

Mile stone(s) as per table given below:-

Sl No	Description of Milestone (Physical)	Time allowed in days (from date of start)	Amount to be with-held in case of non-achievement of
1			
2	NIL		
3			
4			

Time allowed for execution of work – **120** days.

Authority to decide:

(i) Extension of time : Superintending Engineer, AIIMS Raipur (C.G.)

(ii) Rescheduling of mile stones : Superintending Engineer/Director, AIIMS Raipur

(iii) Shifting of date of start in case of delay in handing over of site : Superintending Engineer/Director, AIIMS Raipur

PROFORMA OF SCHEDULES CLAUSE 5

Schedule of handing over of site

Part	Portion of Site	Description	Time Period for handing over reckoned from date of issue of letter of Intent.
Part A	Portion without any hindrance	**All works**	14 days
Part B	Portions with encumbrances	NA	NA
Part C	Portions dependent on work of other agencies	NA	NA

CLAUSE 7

Gross work to be done together with net payment /adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment. : **10 Lakh**

~~**CLAUSE 7 A**~~
~~**No Running Account Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable are submitted by the contractor to the Engineer-in-Charge**~~

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

CLAUSE 10A : **As required by Engineer-In-Charge**

CLAUSE 10B (II)
Whether Clause 10 B (ii) shall be applicable : **Not Applicable**

CLAUSE 10C
Component of labour expressed as percent of value of work : **Not Applicable**

CLAUSE 10CA : **Not Applicable**

Authority to issue base price of materials .....

S.N.	Materials Covered under this clause:	Nearest Materials (other than cement*, reinforcement bars, the structural steel and POL) for which All India Wholesale Price Index to be followed:	Base Price and its corresponding period of all the Materials covered under clause 10 CA*
1			
2		NIL	
3			
4			

* includes Cement component used in RMC brought at site from outside approved RMC plants, if any.
** Base price and its corresponding period of all the materials covered under clause 10 CA is to be mentioned at the time of approval of NIT. In case of recall of tenders, the base price may be modified by adopting latest base price and its corresponding period.

CLAUSE 10CC : **Not Applicable**

CLAUSE 11

Specifications to be followed for execution of work : **CPWD Specifications 2019 Vol-I & Vol-II, General Specifications for Electrical Works (Part-I Internal) - 2013 with modification up to last date of tender submission. (Civil)**

CLAUSE 12

Type of Work : **~~Maintenance~~/Construction Work**

Authority of decide deviation up to 1.5 times of tendered amount : **Director, AIIMS Raipur**

12.2&12.3

Deviation Limit beyond which clauses 12.2 & 12.3 shall apply for building work : As per CPWD Works Manual-2019

12.5

(i) Deviation Limit beyond which clauses 12.2 & 12.3 shall apply for foundation work (except items mentioned in earth work subhead in DSR and related items) : As per CPWD Works Manual-2019

(ii) Deviation Limit for items mentioned in earth work subhead of DSR and related items : As per CPWD Works Manual-2019

CLAUSE 16

Competent Authority for deciding reduced rates. **:** Superintending Engineer/ Director, AIIMS Raipur

CLAUSE 18

List of mandatory machinery, tools & plants to be deployed by the contractor at site **:** As required by Engineer -in- Charge

CLAUSE 19 C..... Engineer- in charge (Superintending Engineer)
CLAUSE 19 D..... Engineer- in charge (Superintending Engineer)
CLAUSE 19 G ..... Engineer- in charge (Superintending Engineer)
CLAUSE 19 K ..... Engineer- in charge (Superintending Engineer)
CLAUSE 25

Constitution of Dispute Redressal Committee (DRC): **AIIMS, Raipur**

CLAUSE 32 : APPLICABLE

Requirement of Technical Representative(s) and recovery Rate

S No	**Minimum Qualification of Technical Representative**	**Discipline**	**Designation (Principal Technical / Technical representative)**	**Minimum experience**	**Number**	**Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 36(i)**	
						Figures	**Words**
1	**Graduate Engineer**	**Required Discipline**	**Principal Technical Representative**	**2 - years**	**ONE**	**Rs. 15,000/- PM**	**Rupees Fifteen Thousand Per Month each**
OR	**Diploma Engineer**	**Required Discipline**	**(Project Planning/ Site/ billing Engineer)**	**5-years**	**ONE**	**Rs.15000 /-PM.**	**Rupees Fifteen Thousand Per Month each**

Assistant Engineers retired from Government services that are holding Diploma will be treated at par with Graduate Engineers.

Diploma holder with minimum 10 year relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.

CLAUSE 38 : Applicable

(i) (a) Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates **2018** printed by C.P.W.D.

(ii) Variations permissible on theoretical quantities:

(a)	Cement For works with estimated cost put to tender not more than Rs. 25 lakh. For works with estimated cost put to tender more than Rs. 25 lakh. 2% plus/minus.	3% plus/minus.
(b)	Bitumen All Works 2.5% plus & only&	nil on minus side.
(c)	Steel Reinforcement and structural steel sections for each diameter, section and category	2% plus/minus
(d)	All other materials.	Nil

Schedule of Quantity					
Name of Work: Construction of Renal Transplant ward, Nephrology and Urology OPD at CC1 Block, AIIMS Raipur.					
Sub Head A: Civil					
I No	**Description of item**	**Qty**	**Unit**	**Rate**	**Amount**
1	**REINFORCED CEMENT CONCRETE**				
1.1	Reinforced cement concrete work in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases above plinth level up to floor five level, excluding the cost of centering, shuttering, finishing and reinforcement with 1:1.5:3 (1 cement : 1.5 coarse sand(zone-III) : 3 graded stone aggregate 20 mm nominal size).	1.60	cum	10719.30	17150.88
1.2	Centering and shuttering including strutting, propping etc. and removal of form for :				
1.2.1	Lintels, beams, plinth beams, girders, bressumers and cantilevers	14.50	sqm	608.35	8821.08
1.3	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.				
1.3.1	Thermo-Mechanically Treated bars of grade Fe-500D or more.	128.00	kg	89.65	11475.20
2	**MASONRY WORK**				
2.1	Brick work with non modular fly ash bricks designation 7.5 average compressive strength in super structure above plinth level up to floor V level in :				
2.1.1	Cement mortar 1:4 (1 cement : 4 coarse sand)	16.00	cum	7873.20	125971.20
2.2	Half brick masonry with non modular fly ash bricks of class designation 7.5, in super structure above plinth and upto floor V level.				
2.2.1	Cement mortar 1 : 4 (1 cement : 4 coarse sand)	125.00	sqm	969.65	121206.25
3	**CLADDING WORK**				
3.1	Granite work gang saw cut (polished and machine cut) of any colour, shade and thickness 18 mm for wall lining (veneer work), backing filled with a grout of average 12 mm thick in cement mortar 1:3 (1 cement : 3 coarse sand), including pointing with white cement mortar 1:2 (1 white cement : 2 marble dust) with an admixture of pigment to match the granite shade (To be secured to the backing by means of cramps, which shall be paid for separately)	105.00	sqm	6397.79	671767.95
3.2	Providing and fixing cramps of required size & shape in RCC/ CC / Brick masonry backing with cement mortar 1:2 (1 cement :2 coarse sand), including drilling necessary hole in stones and embedding the cramp in the hole (fastener to be paid separately).				
3.2.1	Stainless steel cramps	10.00	kg	624.95	6249.50
3.3	Providing and fixing stone slab with table rubbed, edges rounded and polished, of required size and 1.8 cm thick, fixed for platform by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) as per direction of Engineer-in-charge and finished smooth.				
3.3.1	Granite Stone of approved shade	10.50	sqm	3542.85	37199.93

3.4	Providing and fixing Ist quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	55.00	sqm	1063.45	58489.75
3.5	Providing and fixing 15-17 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias, skirtings and similar locations of required size, approved shade, colour and texture laid with epoxy resin based adhesive, joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, cleaning, moulding and polishing to edges to give high gloss finish etc. complete at all levels: Granite of any colour and shade and any size:	24.00	sqm	4644.62	111470.88
4	**WOOD & P.V.C. WORK**				
4.1	Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer (having brand logo with ISi, IS : 3564, embossed on the body, door weight upto 36 kg to 80 kg and door width from 701 mm to 1000 mm), with double speed adjustment with necessary accessories and screws etc. complete.	40.00	each	856.30	34252.00
4.2	Providing and fixing special quality chromium plated brass cupboard locks with six levers of approved quality including necessary screws etc. complete.				
4.2.1	Size 40 mm	56.00	each	272.95	15285.20
4.3	Providing and fixing aluminium tower bolts, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete :				
4.3.1	200x10 mm	3.00	each	90.80	272.40
4.3.2	100x10 mm	16.00	each	58.65	938.40
4.4	Providing and fixing aluminium hanging floor door stopper, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade, with necessary screws etc. complete.				
4.4.1	Twin rubber stopper	3.00	each	62.25	186.75
4.5	Providing and fixing bright finished 100 mm mortice lock with 6 levers without pair of handles of approved quality for aluminium door, with necessary screws etc complete as per direction of Engineer- in-charge.	3.00	each	721.75	2165.25
4.6	Providing and fixing magnetic catcher of approved quality in cupboard / ward robe shutters, including fixing with necessary screws etc. complete.				
4.6.1	Double strip (horizontal type)	48.00	each	34.15	1639.20
4.7	Providing and fixing powder coated telescopic drawer channels 300-600 mm long with necessary screws etc. complete as per directions of Engineerin- charge.	20.00	one set	355.05	7101.00
4.8	Providing & Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt/ suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality.				
4.8.1	1.0 mm thick	280.00	sqm	764.00	213920.00

4.9	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete.				
4.9.1	75 mm	72.00	each	48.95	3524.40
4.10	Providing and fixing bright /matt finished heavy duty Stainless Steel 304 handles of approved quality & make with necessary screws etc all complete: 250 mm:	6.00	each	481.38	2888.28
4.11	Providing and fixing of Film in approved design and shape over Glass at all heights as per the instructions of Engineer In Charge.	83.00	sqm	699.40	58050.20
4.12	Providing and fixing minimum 2 mm thick antistatic seamless PVC flooring. Electrostatic charge dessipation combat PVC seamless flooring of very high quality should be provided, continous roll should be used and joints should be welded by special PVC thermal welding units using PVC welding bars of same colour. The floor should not allow build up of electrical charge beyond 100 volts and floor should efficiently discharge electric charge upto 2 kv. The electrical resistance (point to ground) should be within 2.5x104 to 5x106 ohms. The corners should not be terminated sharply and concealed cove-former (aluminium) should be used to overlap the wall panel to a height of approx 25 mm and sealed perfectly and uniformly. Flooring should be mechanically shock proof, scratch proof, flame retardant and anti microbial. Corners should be uniformly curved, final surface should be non corrosive to biological fluids and detergents, etc. all complete and as per the directions of Engineer In charge.	65.00	sqm	2871.83	186668.95
4.13	Providing and fixing anti microbial Epoxy flooring of thickness not less than 3 mm, in required colour, patterns etc. having anti glare, anti slip properties, corrosion resistant, corners should be uniformly curved, final surface should be non corrosive to biological fluids, detergents etc. all complete as per the instructions of Engineer In charge.	510.00	sqm	1425.22	726862.20
4.14	Providing & Fixing 19 mm thick water proof (BWP phenol bonded) Ply of approved 1st quality and manufacture (IS:710, Marine Plywood) in furniture work including required screws, nails, glue etc, all complete as per the direction of Engineer in charge.	120.00	sqm	1755.20	210624.00
4.15	Providing & Fixing 12 mm thick water proof (BWP phenol bonded) Ply of approved 1st quality and manufacture (IS:710, Marine Plywood) in furniture work including required screws, nails, glue etc, all complete as per the direction of Engineer in charge.	70.00	sqm	1370.90	95963.00
4.16	Providing and fixing 55 mm thick GFRP hermitically sealed single/ double leafed doors with door frames (Powder coated extruded Aluminium alloy profiles/ SS or similar). The door leaf should have high quality synthetic rubber gasket with long life to ensure hermetic sealing. The inner part of the door should be filled with CFC free Polyurethane foam. Door should be fitted with vision panel of required size with double glazed panels. Door opening handle should be SS(High gloss) both sides i/c high quality cylindrical lock etc all complete as per instructions of Engineer In charge. Note: Test certificate for hermitically sealed door frame (Factory test certificate) should be submitted along with ore dispatch documents.	24.00	sqm	3236.14	77667.36

4.17	Providing and fixing powder coated aluminium channel of size 25 x 20 mm and thickness 1.2 mm, with metal runner made of MS & PVC material in the ceiling pipe set 2 mm thick Tee powder coated of required size and MS powder coate fitting wall to wall of size 50 x 25 mm thickness 2.5 mm and other required fittings, screws, hardware etc all complete of approved quality & make as per the instructions of Engineer in charge.	226.00	metre	1110.28	250923.28
4.18	Providing and fixing anti bacterial, waterproof, polyster fabric ICU curtain of size 2.1 x 1.8 m of required GSM and colour including fixing to the channel with required fittings, hardware etc all complete of approved quality & make as per the instructions of Engineer in charge.	185.00	sqm	286.71	53041.35
5	**STEEL WORK**				
5.1	Providing and fixing stainless steel (Grade 304) platform with sink & underneath cabinets and wall mounted cabinets, made of Hollow tubes, channels, plates, sheets of required thickness etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts, hinges, handles, CP waste couplings, other accessories complete, i/c fixing the platform with sink & underneath cabinets and wall mounted cabinets with necessary accessories & stainless steel dash fasteners, stainless steel bolts etc. of required size, on the top of the floor, the side of waist slab or over the wall with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered including weight of hinges & handles but excluding fixing accessories such as nuts, bolts, fasteners, waste couplings etc.)	770.00	kg	612.25	471432.50
5.2	Providing and fixing in position Surgical Scrub station (Double Bay) of SS 304 of size 1300x560x1360 mm with automatic sensor & foot operated tap with hot and cold water temperature controller arrangement & valve and foot operated soap dispenser arrangement of approved make and quality as per the direction of engineer in charge.	1.00	each	168122.10	168122.10
6	**FLOORING**				
6.1	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), Jointing with grey cement slurry @ 3.3 kg/sqm including pointing the joints with white cement and matching pigment etc., complete.	21.00	sqm	935.60	19647.60
6.2	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete.				
6.2.1	Size of Tile 600x600 mm	35.00	sqm	1416.65	49582.75

6.3	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, dado, wall tiles over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joint with white cement & matching pigments etc. complete.				
6.3.1	Size of Tile 600x600 mm	360.00	sqm	1466.50	527940.00
7	**ROOFING**				
7.1	Providing and fixing tiled false ceiling of specified materials of size 595x595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanized steel sections (galvanized @ 120 grams/ sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38 mm made from 0.30 mm thick (minimum) sheet, spaced at 1200 mm center to center and cross "T" of size 24x25 mm made of 0.30 mm thick (minimum) sheet, 1200 mm long spaced between main "T" at 600 mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 24x25 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 24x24x0.3 mm and laying false ceiling tiles of approved texture in the grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm GI adjustable rods with galvanised butterfly level clips of size 85 x 30 x 0.8 mm spaced at 1200 mm center to center along main T, bottom exposed width of 24 mm of all T-sections shall be pre-painted with polyester paint, all complete for all heights as per specifications, drawings and as directed by Engineer-in-charge.				
7.1.1	GI Metal Ceiling Lay in plain Tegular edge Global white color tiles of size 595x595 mm, and 0.5 mm thick with 8 mm drop; made of G I sheet having galvanizing of 100 gms/sqm (both sides inclusive) and electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending.	565.00	sqm	1591.70	899310.50
8	**FINISHING**				
	CEMENT PLASTER (IN COARSE SAND)				
8.1	12 mm cement plaster of mix :				
8.1.1	1:6 (1 cement: 6 coarse sand)	145.00	sqm	294.35	42680.75
8.2	15 mm cement plaster on rough side of single or half brick wall of mix:				
8.2.1	1:6 (1 cement: 6 coarse sand)	93.00	sqm	339.10	31536.30
8.3	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade :				
8.3.1	Two or more coats on new work	250.00	sqm	137.85	34462.50
8.4	Varnishing with varnish of approved brand and manufacture :				
8.4.1	Two or more coats of glue sizing with copal varnish over an under coat of flatting varnish	202.00	sqm	197.40	39874.80

8.5	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	250.00	sqm	123.85	30962.50
8.6	Applying priming coats with primer of approved brand and manufacture, having low VOC (Volatile Organic Compound) content.				
8.6.1	With water thinnable cement primer on wall surface having VOC content less than 50 grams/litre	250.00	sqm	64.45	16112.50
8.7	Distempering with 1st quality acrylic distember (Ready mix) having VOC content less than 50 grams/ litre of approved brand and manufacture to give an even shade :				
8.7.1	Old work (one or more coats)	300.00	sqm	56.80	17040.00
8.8	Removing dry or oil bound distemper, water proofing cement paint and the like by scrapping, sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete.	200.00	sqm	20.85	4170.00
8.9	Wall painting with plastic emulsion paint of approved brand and manufacture to give an even shade:				
8.9.1	One or more coats on old work	1600.00	sqm	90.85	145360.00
8.10	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade :				
8.10.1	One or more coats on old work	55.00	sqm	86.55	4760.25
9	**REPAIRS TO BUILDING**				
9.1	Fixing chowkhats in existing opening including embedding chowkhats in floors or walls cutting masonry for holdfasts, embedding hold fasts in cement concrete blocks of size 15 x 10 x 10 cm with cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size), painting two coats of approved wood preservative to sides of chowkhats and making good the damages to walls and floors as required complete, including disposal of rubbish to the dumping ground, all complete as per direction of Engineer-in-Charge.				
9.1.1	Door chowkhats	11.00	each	1505.30	16558.30
9.2	Making the opening in brick masonry including dismantling in floor or walls by cutting masonry and making good the damages to walls, flooring and jambs complete, to match existing surface i/c disposal of mulba/ rubbish to the nearest municipal dumping ground, all complete as per direction of Engineer-in-Charge.				
9.2.1	For door/ window/ clerestory window	15.00	sqm	1046.95	15704.25
9.3	Taking out existing wooden flush door shutter, repair by cutting, painting etc. and refixing of repaired door shutters to existing door frames, including replacement of hinges with screws, etc. as required, all complete as per the direction of the Engineer-in-charge.	11.00	each	325.95	3585.45
10	**DISMANTLING AND DEMOLISHING**				
10.1	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.	2.20	cum	2928.10	6441.82
10.2	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.				
10.2.1	In cement mortar	23.00	cum	1698.45	39064.35

10.3	Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead :				
10.3.1	Of area 3 sq. metres and below :	16.00	each	302.70	4843.20
10.4	Dismantling tile work in floors, walls and roofs laid in cement mortar including stacking material within 50 metres lead.				
10.4.1	For thickness of tiles 10 mm to 25 mm	265.00	sqm	60.50	16032.50
10.5	Dismantling of flushing cistern, Toilet seat, urinal etc of all types including stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead.	14.00	each	744.60	10424.40
10.6	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead.	355.00	sqm	45.05	15992.75
10.7	Dismantling aluminium/ Gypsum partitions, doors, windows, fixed glazing and false ceiling including disposal of unserviceable material and stacking of serviceable material with in 50 meters lead as directed by Engineer-in-charge.	300.00	sqm	46.50	13950.00
10.8	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	50.00	cum	219.35	10967.50
11	**SANITARY INSTALLATIONS**				
11.1	Providing and fixing wash basin with C.I. brackets, 15 mm dia CP Brass single hole Surgical type basin mixer of approved quality and make, including painting of fittings and brackets, cutting and making good the walls wherever required, CP brass waste, etc all complete:- (a) White Vitreous China Wash basin size 550x400 mm with a 15 mm CP Brass single hole Surgical type basin mixer	6.00	each	4542.40	27254.40
11.2	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.				
11.2.1	Flexible pipe				
11.2.1.1	32 mm dia	6.00	each	104.35	626.10
11.3	Providing and fixing soil, waste and vent pipes :				
11.3.1	100 mm dia				
11.3.1.1	Centrifugally cast (spun) iron socketed pipe as per IS: 3989	2.00	metre	1077.40	2154.80
11.3.2	75 mm diameter :				
11.3.2.1	Centrifugally cast (spun) iron socketed pipe as per IS: 3989	2.00	metre	1042.10	2084.20
11.4	Providing and fixing plain bend of required degree.				
11.4.1	100 mm dia				
11.4.1.1	Sand cast iron S&S as per IS : 3989	1.00	each	439.75	439.75
11.5	Providing and fixing single equal plain junction of required degree :				
11.5.1	100x100x100 mm				
11.5.1.1	Sand cast iron S&S as per IS - 3989	1.00	each	707.30	707.30
11.6	Providing lead caulked joints to sand cast iron/centrifugally cast (spun) iron pipes and fittings of diameter :				
11.6.1	100 mm	6.00	each	549.65	3297.90

11.6.2	75 mm	1.00	each	466.40	466.40
11.7	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :				
11.7.1	100 mm inlet and 75 mm outlet				
11.7.1.1	Sand cast iron S&S as per IS - 3989	1.00	each	1671.00	1671.00
12	**WATER SUPPLY**				
12.1	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work - Exposed on wall				
12.1.1	25 mm nominal outer dia Pipes	47.00	metre	408.55	19201.85
12.1.2	40 mm nominal outer dia Pipes	30.00	metre	674.35	20230.50
12.2	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. Concealed work, including cutting chases and making good the walls etc.				
12.2.1	20 mm nominal outer dia Pipes	35.00	metre	513.75	17981.25
12.2.2	40 mm nominal outer dia Pipes	30.00	metre	883.54	26506.20
12.3	Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete :				
12.3.1	25 to 40 mm nominal bore	11.00	each	757.10	8328.10
12.4	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :				
12.4.1	20 mm nominal bore	5.00	each	397.45	1987.25
12.4.2	25 mm nominal bore	2.00	each	399.15	798.30
12.5	Providing and fixing uplasticised PVC connection pipe with brass unions :				
12.5.1	45 cm length				
12.5.1.1	15 mm nominal bore	18.00	each	85.20	1533.60
12.6	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931				
12.6.1	15mm nominal bore	17.00	each	500.35	8505.95
12.7	Providing and fixing CP Brass Single Lever Surgical Purpose Elbow Action Sink Mixer with Extended Operating Lever, Connecting Legs & Wall Flanges of approved quality & make as per the instructions of Engineer in charge : 15 mm nominal dia:	3.00	each	4616.93	13850.79
13	**ALUMINIUM WORK**				

13.1	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :				
13.1.1	For fixed portion :				
13.1.1.1	Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	1350.00	Kgs	433.95	585832.50
13.1.2	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots/ rollers and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately) :				
13.1.2.1	Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	190.00	Kgs	531.80	101042.00
13.2	Providing and fixing 12 mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade l Type ll, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of Engineer-in-charge :				
13.2.1	Pre-laminated particle board with decorative lamination on both sides :	113.00	Sqm	951.05	107468.65
13.3	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of Engineer-in-charge. (Cost of aluminium snap beading shall be paid in basic item):				
13.3.1	With float glass panes of 5 mm thickness (weight not less than 12.50 kg/ sqm)	83.00	Sqm	1325.55	110020.65
13.4	Providing and fixing anodised aluminium grill (anodised transparent or dyed to required shade according to IS: 1868 with minimum anodic coating of grade AC 15) of approved design/pattern, with approved standard section and fixed to the existing window frame with C.P. brass/ stainless steel screws @ 200 mm centre to centre, including cutting the grill to proper opening size for fixing and operation of handles and fixing approved anodised aluminium standard section around the opening, all complete as per requirement and direction of Engineer-in-charge. (Only weight of grill to be measured for payment).	103.00	kg	560.85	57767.55
13.5	Providing and fixing 12 mm thick frameless toughened glass of approved brand and manufacture, including providing and fixing Stainless steel L- connector, fixing arrangement, filling gap with silicon sealant and making necessary holes etc. all complete as per direction of Engineer-incharge.	3.30	sqm	3299.08	10886.96

13.6	Filling the gap in between aluminium/ stone/ wood frame and adjacent RCC/Brick/ Stone/ wood/ Ceramic/ Gypsum work by providing weather/structural non sag elastomeric PU sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete, complying to ASTM C920, DIN 18540- F & ISO 11600				
13.6.1	Upto 10 mm depth and 10 mm width	20.00	metre	177.00	3540.00
14	**NEW TECHNOLOGIES AND MATERIALS**				
14.1	Providing and fixing concealed hinge of approved quality for 19-20mm thick door with stainless steel screws complete :	96.00	each	115.55	11092.80
				Total Sub Head A	**6913612.16**
Sub Head B: Electrical					
1	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit & accessories as required.				
(a)	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	589.20	metre	149.96	88356.43
(b)	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	123.00	metre	171.52	21096.96
(c)	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	415.68	metre	205.42	85388.99
(d)	4 X 4 sq. mm + 2 X 4 sq. mm earth wire	490.48	metre	316.35	155163.35
(e)	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	80.50	metre	772.38	62176.59
SWITCH, SOCKET, BLANK PLATE AND GI BOX					
2	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.				
(a)	1 or 2 Module (75mmX75mm)	25.00	each	249.58	6239.50
(b)	3 Module (100mmX75mm)	15.00	each	274.23	4113.45
(c)	4 Module (125mmX75mm)	10.00	each	294.78	2947.80
(d)	6 Module (200mmX75mm)	71.00	each	342.02	24283.42
(e)	8 Module	19.00	each	393.38	7474.22
3	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.				
(a)	5/6 A switch	139.00	each	87.30	12134.70
(b)	15/16 A switch	106.00	each	135.57	14370.42
(c)	3 pin 5/6 A socket outlet	111.00	each	114.00	12654.00
(d)	6 pin 15/16 A socket outlet	95.00	each	179.74	17075.30
4	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	20.00	each	508.41	10168.20
5	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	25.00	each	32.87	821.75
6	Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	24.00	each	351.27	8430.48

7	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)				
(a)	8 way (4 + 24), Double door	1.00	each	4725.69	4725.69
(b)	6 way (4 + 12), Double door	1.00	each	3793.08	3793.08
8	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
(a)	Single pole	42.00	each	204.39	8584.38
9	Supplying and fixing TP&N MCB,440 volts, 'C' curve, suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning & accessories etc. as required.				
(a)	63 A	2.00	each	2028.70	4057.40
10	Supplying and fixing following rating, four pole, (three phase and neutral), 415 volts, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
(a)	63 A	2.00	each	2852.26	5704.52
11	Supplying and fixing Cable End Box (Loose Wire Box) suitable for following triple pole and neutral, sheet steel, MCB distribution board, 415 Volts, on surface/ recess, complete with testing and commissioning etc.as required.				
(a)	For 8 way, Double door TPN MCBDB	1.00	each	1272.58	1272.58
(b)	For 6 way, Double door TPN MCBDB	1.00	each	1090.78	1090.78
12	Dismembering and reinstallation of existing 1200 mm sweep ceiling fan with providing and fixing of fan clamp for hanging as required.of existing ceiling fan and with fan clamp as required.	21.00	each	263.44	5532.24
13	Dismembering and reinstallation of existing 1200 mm sweep ceiling fan as required.	25.00	each	197.21	4930.25
14	Supplying and fixing 20 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 20 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	2.00	each	1735.80	3471.60
15	Supply and Installation of Exhaust fan suitable for single phase, 230 volts, 50 Hz, AC supply having RPM 1100 or better , 300 mm sweep, power input = 35W or less, Air delievery ≥ 700 CFM complete with motor, louvers/ shutters etc. as required in the existing window, includes dismembering of window glass, providing and fixing ACP panel (6mm thickness Aluminium composite panel) framing in place of glass,	6.00	each	1775.53	10653.18

	connection, testing, commissioning etc. as required.				
16	Supply and fixing of Recess/surface mounted LED down lighter fixture having wattage 14-18 watt, powder coated CRCA / die-cast aluminium housing, with high effiency diffuser, CCT 5700K- 6500K, CRI >80 with SDCM<5, lumens efficiency output not less than 115 lumens / watt, with EMC/EMI compliant electronic driver having PF>0.9, THD < 10%, & minimum of 3kV surge/burst protection, complete with 50000 hrs burning for lifetime with supporting data sheet LM-79 & LM-80. The LED used in the luminaire shall be only Lumileds, Nichia, Cree, osram & LGIT and hanging with necessary chain etc as required.	18.00	each	1354.46	24380.28
17	Supply and fixing of Recess/surface mounted 1200X300mm LED fitting 30-32 watt, powder coated CRCA / die-cast aluminium housing, with high effiency diffuser, CCT 5700K- 6500K, CRI >80 with SDCM<5, lumens efficiency output not less than 115 lumens / watt, with EMC/EMI compliant electronic driver having PF>0.9, THD < 10%, & minimum of 3kV surge/burst protection, complete with 50000 hrs burning for lifetime with supporting data sheet LM-79 & LM-80. The LED used in the luminaire shall be only Lumileds, Nichia, Cree, osram & LGIT and hanging with necessary chain etc as required.	20.00	each	2618.17	52363.40
18	Supply and fixing of Recess/surface mounted 600X600mm LED fitting 30-32 watt, powder coated CRCA / die-cast aluminium housing, with high effiency diffuser, CCT 5700K- 6500K, CRI >80 with SDCM<5, lumens efficiency output not less than 115 lumens / watt, with EMC/EMI compliant electronic driver having PF>0.9, THD < 10%, & minimum of 3kV surge/burst protection, complete with 50000 hrs burning for lifetime with supporting data sheet LM-79 & LM-80. The LED used in the luminaire shall be only Lumileds, Nichia, Cree, osram & LGIT and hanging with necessary chain etc as required.	46.00	each	2684.40	123482.40

19	Supplying and Installation of clean room recess mounted 600X600 mm, 30-34 watt LED luminaries with lumen efficiancy of >100 lm/W, dimming option, highly specular anodized aluminum reflectors, optical antiglare system, high effiency polycarbonate diffuser with EMC/EMI compliant electronic driver having PF>0.9, THD < 10%, & minimum of 3kV surge/burst protection, complete with 50000 hrs burning for lifetime with supporting data sheet LM-79 & LM-80. Luminaries cover should be made of highly resistant, disinfectant proof laminated, safety glass/acrylic with stylish fine-grained surface. The reflectors should be of high quality, cleanable and non-deteriorating. The Recess frames should be gas tight. The white luminaries body should be made of sheet steel, perfectly powder coated, supplied ready for connection optionally for individual or series circuit with digital electronic control gear in multilamp technology. The Light fitting should be flush with the ceiling and should be removable from top or bottom. Optional pre-set color temperatures or adjust to any CCT in the Productivity Range 3000 K - 5700 K, Dimming Range 10%-100% The LED used in the luminaire shall be only Lumileds, Nichia, Cree, osram & LGIT and hanging with necessary chain etc as required.	9.00	each	13726.64	123539.76
20	Supply, Installation, Testing and Commissioning of 400 mm sweep, Wall mounted fan having 3 nos. blades, copper winding, Air delivery minimum 65 CMM, 1320 RPM or better including all remaining accessories suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	4.00	each	2234.21	8936.84
21	Supply and Installation of 10 litre capacity Water Geysers in required location equivalent to Jaquar model- EPM-WHT-V010 * 10 liter capacity * Temperature Range:- 25-70ºC or better * Wattage:- 2KW or less * 5 star rating * suitable for single phase, 230 volts, 50 Hz, AC supply	1.00	each	8925.02	8925.02
22	Providing and Laying conductive copper grid laid underneath the PVC sheet, supported by liquid epoxy compounds allowed to set as a uniform and level surface. The copperstrips to be made Visible by grinding and no copper strip should project more than0.Smm above level surface to avoid damage to the PVC sheet One earthing leadshould be brought out from every 150sq.ft area and attaching it to the mainearthing strip/ground Copper grounding strips (0.05 mm thick, 50 mm width) should be laid flat on thefloor in the conductive adhesive and connected to copper strip of grounding. The connection from copper grid should be brought out uniformly at places to formequipotential grid. Flooring should be	26.59	Sqm	80.63	2143.95

	mechanically shock proof, scratch proof, flame retardant andanti-microbial.				
23	Supplying and Installation of 60 mm thick hermetically sealed single sliding door of 2.1 m (H) x 1.8 m (W). The controller should be capable of being operated by elbow switches/ foot switches as well as touch less sensor. The track should be of Stainless steel/ Aluminum and the running surface for the top rollers should be suitably angled to reduce resistance to movement. The door material should be of HPL colour should match the interior and care should be taken to make the leaf strong and light weight.The door leaf should be hung by means of hard plastic rollers of high quality with double bearing at the top. Rollers should be provided under the stainless steel/ Aluminum track to enable smooth and noiseless movement. Opening and closing of the door should be microprocessor controlled electromechanical movement. One should be able to open and close the door effortlessly in case of failure of automatic mechanism. Door opening handle should be of SS (gloss finish), i/c high quality cylindrical lock. Door leaf should have high quality synthetic rubber gasket with long life to ensure hermetic sealing, Air tightness 99.99% at a pressure of 100KPa. The finished floor on either side of the door should be perfectly level (maximum permissible difference +1mm). The overall thickness of the finished door should be of 60mm. The inner part of the door should be filled with CFC free polyurethane foam. (Sealed airtight to prevent further ingress of any microbial organism). The door and controls should comply with IEE regulation. All motors used should be DC brushless motors with essential isolation from mains. All motors used should be DC brushless motors with essentíal isolation from mains. Door should be with vision window 300 mm x 300 mm with double glazed panels and hermetically sealed motorized roller blind inside. Noise level should not exceed 60 db. The starting time after receiving the signal shauld be adjustable between 0.5 to 20 seconds. The complete door assembly should be BIS/ European CE marked/ US FDA approved. Test certificate for hermetically sealed door frame (factory test certificate) should be enclosed with the pre dispatch documents.	4	each	330642.81	1322571.24

24	Supplying and Installation of 60 mm thick hermetically sealed single sliding door of 2.1 m (H) x 1.8 m (W). The controller should be capable of being operated by elbow switches/ foot switches as well as touch less sensor. The track should be of Stainless steel/ Aluminum and the running surface for the top rollers should be suitably angled to reduce resistance to movement. The door material should be of HPL colour should match the interior and care should be taken to make the leaf strong and light weight.The door leaf should be hung by means of hard plastic rollers of high quality with double bearing at the top. Rollers should be provided under the stainless steel/ Aluminum track to enable smooth and noiseless movement. Opening and closing of the door should be microprocessor controlled electromechanical movement. One should be able to open and close the door effortlessly in case of failure of automatic mechanism. Door opening handle should be of SS (gloss finish), i/c high quality cylindrical lock. Door leaf should have high quality synthetic rubber gasket with long life to ensure hermetic sealing, Air tightness 99.99% at a pressure of 100KPa. The finished floor on either side of the door should be perfectly level (maximum permissible difference +1mm). The overall thickness of the finished door should be of 60mm. The inner part of the door should be filled with CFC free polyurethane foam. (Sealed airtight to prevent further ingress of any microbial organism). The door and controls should comply with IEE regulation. All motors used should be DC brushless motors with essential isolation from mains. Door should be Lead-lined (minimum 2 mm thick) in compliance with AERB guidelines for Radiation safety for use of C-Arm. All motors used should be DC brushless motors with essentíal isolation from mains. Door should be with vision window 300 mm x 300 mm with double glazed panels and hermetically sealed motorized roller blind inside. Vision Window should be made of Lead- lined glass (minimum 2 mm thick lead equivalent) in compliance with AERB guidelines for Radiation safety for use of C-Arm. Noise level should not exceed 60 db. The starting time after receiving the signal shauld be adjustable between 0.5 to 20 seconds. The complete door assembly should be BIS/ European CE marked/ US FDA approved. Test certificate for hermetically sealed door frame (factory test certificate) should be enclosed with the pre dispatch documents.	3	each	399526.73	1198580.19
			Total	**Sub Head B**	**3451634.34**

Sub Head C: AC & R

1	Supply, Installation, Testing and commissioning of factory built floor mounted chilled water double skin type horizontal/vertical air handling units made of 25mm thick panels consisting of pre plasticized G.I. casing of thickness 0.8mm outside layer and 0.8 mm inside layer with polyurethane foam (PUF) insulation factory injected between them by injection moulding machine, complete with blower section with blower suitable for minimum 130 mm static pressure for hepa filter, minimum 2 bend GSS/PVC eliminators,cooling coil section with aluminium finned copper tubes (tubes thickness not less than 0.5mm) cooling coil of 6 row deep,HEPA FILTER (Deep Pleat suction HEPA Filter, B type), & UVGI system for air purification , belt drive package with TEFC drive motor of effecinecy class IE3 suitable for 415 ± 10% volts, 50Hz, 3 Phase AC supply suitably designed for variable frequency drive applications, drain connections, stainless steel (18G) drain pan with PUF insulation, 150 mm dia. dial type pressure gauges (2 nos.)and industrial type thermometers (2 nos.) at the inlet and outlet of coil, auto purge valve wherever required,necessary vibration isolation arrangement etc. complete as per specification and of following capacities.				
	Double Skin AHU Units of 6 row cooling coil of 28900 CMH	1	Nos.	357157.5	357157.5
2	Supplying, laying/ fixing, testing and commissioning of following nominal sizes of chilled water piping inside the building (with necessary clamps, vibration isolators and fittings but excluding valves, strainers, gauges etc.) duly insulated with following closed cell elastometric nitrile rubber of minimum 45 Kg / cu m density, thermal conductivity 0.037 W/MK or better at 20 deg mean temperature class 'O' insulation applied by suitable rubber based adhesive complete including repairing of damage to building etc. as per specifications and as required complete in all respect. Note:-The Pipes of sizes 150mm & below shall be M.S. 'C' class as per IS : 1239 and pipes size above 150mm shall be welded black steel pipe heavy class as per IS: 3589, from minimum 6.35mm thick M.S. Sheet for pipes upto 350 mm dia. and from minimum 7mm thick MS sheet for pipes of 400 mm dia and above.				
a	Chilled water piping of nominal size - 40mm dia. (32mm thick nitrile rubber insulation)	15	MTR	944.25	14163.75
b	Chilled water piping of nominal size - 32mm dia. (19mm thick nitrile rubber insulation)	90	MTR	771.62	69445.8
c	Chilled water piping of nominal size - 25mm dia. (19mm thick nitrile rubber insulation)	24	MTR	641.92	15406.08
3	Supplying, fixing, testing and commissioning of following valves, strainers, gauges in the chilled water plumbing duly insulated to the same specifications as the connected piping and adequately supported as per specifications. BUTTERFLY VALVE (MANUAL) with C I body SS Disc, Nitrile Rubber Seal & ORing PN 16 pressure rating for chilled water/hot eater circulation as specified .				
a	BUTTERFLY VALVE (MANUAL) 40 mm	2	Nos.	3004.60	6009.2

b	BUTTERFLY VALVE (MANUAL) 32 mm	2	Nos.	2652.74	5305.48
4	Y - STRAINER of Ductile CI Body flanged ends with stainless steel strainer for chilled / hot water circulation including insulation as specified.				
	40 mm dia	1	Nos.	3661.12	3661.12
	32mm Dia	1	Nos.	3317.74	3317.74
5	:Supply, Installation, Testing and Commissioning of Balancing Valve 40mm dia sizes electronic, selfbalancing, pressure independent type dynamic balancing valve with integrated 2 way modualating control valves in a single body. The actuator shall be capable of accepting upto 10V DC and upto 20mA electric signal and shall provide similar transduced feedback output to control system. Maximum close off pressure shall not be less than 6 Bar for upto 50 mm valves and not be less than 7 Bar for 65 mm & above. Valves should have pressure rating of 25 Bar minimum.	1	Nos.	4644.49	4644.49
6	Providing and fixing in position the industrial type pressure gauges with gun metal / brass valves complete as required.	1	Nos.	1123.88	1123.88
7	Providing , fixing & testing position the industrial type thermometers.	1	Nos.	983.08	983.08
8	Supplying, fixing acoustic lining on wall and ceiling of AHU rooms with 50mm thick, density 32 kg/cu.m resin bonded glass fiber insulation friction fixed in 610mm x 610 mm frame work made of 25X50X50X50X25 mm made out of 0.6mm thick GI sheet U shaped channel and covered with reinforced fiber glass tissue and finished with 0.80 mm perforated aluminium sheet etc. complete as required and as per specifications.	50	SQMT	1170.27	58513.5
9	Supply, Installation,Testing & commissioning of AHU Control Panel with Dual Loop PID-cum-Logic Controller for intelligent humidity and temperature control and Digital inputs allow monitoring of filters, AHU ON/OFF control, alarms for %RH, Temperature, DP, fire safety, etc. Relays can be used to activate hooters, or switch on or off external devices for alarms as well as monitoring (Full Specification mention in NIT) with all accessories require to installation are included in this.	2	Nos.	52696.20	105392.4
10	Supply, installation, balancing and commissioning of factory fabricated GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required.				
a	GSS sheet metal rectangular ducting as per IS 655-2006 for 0.63 mm thickness	190	SQMT	1009.18	191744.2
b	GSS sheet metal rectangular ducting as per IS 655-2006 for 0.80 mm thickness	25	SQMT	1184.81	29620.25
c	GSS sheet metal rectangular ducting as per IS 655-2006 for 1.00 mm thickness	15	SQMT	1307.29	19609.35
11	Supply, installation, testing and commissioning of GI volume control duct damper complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as per specifications.	8	SQMT	6676.32	53410.56

12	Supply, installation, testing and commissioning of Motorized (ON-OFF Type) duct mounted GI volume control damper with enthalpy sensor and necessary control wire (minimum 1.5 sqmm) for integration within AHU room.				
a	Motorized (ON-OFF Type) duct mounted GI volume control damper	2	SQMT	8166.03	16332.06
b	Motorized (ON-OFF Type) duct mounted GI volume control Actuator	1	EACH	8175.56	8175.56
13	Supplying, Fixing,testing and commissioning of fire dampers in supply air duct/ main branch and return air path as and where required of required sizes i/c control wiring,the damper shall be motorized and spring return so as to close the damper in the event of power failure automatically and open the same in case of power being restored. The spring return action shall be inbuilt mechanism and not externally mounted. The damper shall also be closed in the event of fire signal complete as required and as per specifications.				
a	Fire Damper	1	Nos.	10151.27	10151.27
b	Actuator	1	Nos.	9461.52	9461.52
14	Supply and fixing of Acoustic lining in supply air duct upto 5 meter length and plenum with 25 mm thick resin bonded glass wool having density of 32 kg/m³, with 25 mm X 25 mm section of 1.25 mm thick, at 600 mm centre to centre covered with Reinforced Plastic tissue paper and 0.5 mm thick perforated aluminum sheet fixed to inside surface of ducts with cadmium plated nuts, bolts, stick pins, CPRX compound etc. complete as required and as per specifications.	50	SQMT	664.87	33243.5
15	Supplying and fixing of 19 mm Elastometric Nitrile rubber insulation density 50-70kg/m3 thickness duly laminated aluminum foil of mat finish closed cell Nitrile rubber (Class "O") insulation on existing duct after applying suitable adhesive for Nitrile rubber. The joints shall be sealed with 50 mm wide and 3 mm thick self adhesive nitrile rubber tape insulation complete as per specifications and as required.	190	SQMT	715.66	135975.4
16	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers as per specifications.	3	SQMT	8709.42	26128.26
17	Fixing of existing powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers as per specifications.	2	SQMT	437.41	874.82
18	Supplying & fixing of powder coated extruded aluminium Return Air Grills with louvers but without volume control dampers complete as required.	3	SQMT	5656.25	16968.75
19	Fixing of existing powder coated extruded aluminium Return Air Grills with louvers but without volume control dampers complete as required	8	SQMT	437.41	3499.28
20	Supplying, fixing testing commissioning of supply air diffusers of powder coated aluminium with aluminium volume control dampers with anti smudge ring & removable core.	5	SQMT	11671.44	58357.2
21	fixing ,testing ,commissioning of excisting supply air diffusers of powder coated aluminium with aluminium volume control dampers with anti smudge ring & removable	2	SQMT	436.10	872.2

	core.				
22	Supplying, fixing testing commissioning of Return air diffusers of powder coated aluminium without volume control dampers with anti smudge ring & removable core.	1	SQMT	7763.82	7763.82
23	fixing ,testing ,commissioning of excisting Return air diffusers of powder coated aluminium without volume control dampers with anti smudge ring & removable core.	8	SQMT	436.10	3488.8
24	Supply, Installation,Testing and Commisioning of air curtain units contructed with powder coated metallic casing type complete with forward curved blade direct driven fan driven by EC motor alongwith suaitable controller .Air curtain shall be suaitable for horizontal / vertical installation.Mounting bracket shall be manufacturer (unit complete with mounting bracket,potentiometer to control airflow & autocut door magnet switch) , Air curtain shall be designed for outlet velocity of 9.6-11 m/s and minimum sir velocity at 3 meter shall be 2.4 m/s, air curtain with 2.0 meter width -(air quantity-4600 CMH, POWER SUPPLY - 230 V/1ph/50HZ, Motor Type/Rating-EC/0.26 KW,Protection Rating -IP-20).	3	Nos	55107.14	165321.42
25	Factory built Ceiling mounted compact chilled water double skin type horizontal/vertical 2500 CFM air handling units made of 25mm thick panels consisting of pre plasticized G.I. casing of thickness 0.8mm outside layer and 0.8 mm inside layer with polyurethane foam (PUF) insulation factory injected between them by injection moulding machine, complete with blower section with blower suitable for static pressure as required, minimum 2 bend GSS/PVC eliminators,cooling coil section with aluminium finned copper tubes (tubes thickness not less than 0.5mm) cooling coil of 4 row deep, filter section with 50mm thick metal viscous/ washable synthetic type air prefilters, belt drive package with TEFC drive motor of efficiency class IE 3 suitable for Single or three phase AC supply suitably designed for VFD applications, drain connections, stainless steel (18G) drain pan with PUF insulation, auto purge valve wherever required, necessary vibration isolation arrangementetc with all accessories require to installation are included in this.	1	Nos	185986.58	185986.58
26	Supply, Installation,Testing and Commisioning of 1000 CFM Treated Fresh Air Unit (TFAU) .Fresh Air Unit is provided with primary filters of different media,Extruded Aluminium hollow profile,Double Skin Panels with thickness 25 mm thick panels consisting of pre plasticized G.I. casing of thickness 0.8mm outside layer and 0.8 mm inside layer with polyurethane foam (PUF) insulation factory injected between them by injection moulding machine, complete with blower section with blower suitable for static pressure as required and free from HFC and CFC , PUF are used, Base frame of heavy G.I (Galvanized steel sheet) channel of min thickness 1.4 mm with lifting holes for handling, The fans are dynamically and statically balanced, For Blower and Motor common base frames are provided,Induction motors with TEFC squirrel cage , 50/60 cycle, 3 phase/ 1 phase AC supply necessary vibration isolation arrangementetc. with all accessories require to installation are included in this.	1	Nos	137767.84	137767.84

27	Supply, Installation,Testing and Commisioning of inline fan with 2100CFM exhaust air having powder coated steel housing, powder coated aluminium impeller, powder coated rotor, with IP 55 protection , "F"class insulation,themally protected at 145°C ,Maintenance free ball bearing ,permissible ambient temperature 0 to 60°C ,High voltage test according to IS 3588-1987,fan balancing 6.3 grade as recommended by IS 1940-1-2003,counter clockwise direction, casing for HEPA filter or Inbuilt HEPA Filter with low noise level below 60 db with all accessories require to installation are included in this.	1	Nos	52889.08	52889.08
28	Supply, Installation, Testing and Commisioning of Digital Pressure Monitor system M.S. Powder Coated Body with Stainless Steel Front Flush Plate for Modular Wall Fitment with four digit LED display, Pressure measuring range (-10.0to + 10.0 mm.W.C./-25.0 to +25.0 mm.W.C. /-50.0 to +50.0 mm.W.C./0.0 to +100.0 mm.W.C. /-100 to +100 Pascals/-250 Pascal), Integrated 4 Digit Red LED 7 Segment Display, Integrated High Speed Differential Pressure Sensor, 24 Volts D.C. Typical power , accuracy (+/-0.5% of Full Scale) ,Built In High & Low Buzzer Alarm for Process Set Parameter Violation with Acknowledgement Key, Isolated RS485 Modbus Protocols, unit conversion at the press of a key between mm.w.c. & Pascals, integrated buzzer alarm for set point violation, offset provision to meet audit requirements, analog 4-20ma output, 30 mm. Depth for clean room modular wall fitment & RS 485 modbus communication for BMS / SCADA / PLC integration with all accessories require to installation are included in this.	1	Nos	12963.95	12963.95
29	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required				
a	2 X 4 sq. mm + 1 X 4 sq. mm earth wire (COST FOR 01 METERS)	20	MTR	205.79	4115.8
b	4 X 10 sq. mm + 2 X 6 sq. mm earth wire (COST FOR 01 METERS)	15	MTR	557.26	8358.9
c	4 X 16 sq. mm + 2 X 6 sq. mm earth wire (COST FOR 01 METERS)	40	MTR	772.72	30908.8
30	Supplying and fixing of 20 mm sizes of medium class PVC conduit along with accessories in surface / recess including cutting the wall and making good the same in case of recessed conduit as required.	70	MTR	85.78	6004.6
31	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.				
a	25mm Outer dia	9	MTR	379.21	3412.89
b	32mm Outer dia	7	MTR	493.57	3454.99
32	Supply and fixing of insulation of 6 mm nitrile rubber CPVC Drain Piping complete as required	22	MTR	81.67	1796.74

33	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required	10	MTR	212.03	2120.3
35	Buy - Back of Galvanized Iron sheet Scrap of Air conditioning ducts(dismentaling of duct and remove from site is in scope of agency) installed at Dentistry Department.	-500	Kg	25.00	-12500
				Total Sub Head C	**1873402.71**

Grand Total (Sub Head A+B+ C)	**12238649.00**