ALL INDIA INSTITUTE OF MEDICAL SCIENCES, RAIPUR

OFFICE OF
THE SUPERINTENDING ENGINEER
AIIMS, RAIPUR

NOTICE INVITING TENDER

N.I.T. NO. 02/SE/AIIMS/2016-17 **Date: 17-08-2016**

NAME OF WORK: - **"Annual Repair and Maintenance of Civil/Horticulture/Electrical/ plumbing of Hospital Buildings, Medical College Building, Nursing College, Ayush PMR Building, Trauma Building, Service Buildings & Hostels at All India Institute of Medical Sciences, (AIIMS) Raipur".**

Estimated cost put to tender	**Rs. 76, 05,126/-**
Earnest Money	**Rs. 1, 52, 103/-**
Tender Document Cost (Inclusive VAT)	**Rs. 1,140/-**
Time allowed	**12 (Twelve) Months**

Certified that this document contain **130** printed pages including this cover page.

Issued to & Submitted by: _____
E-mail id: _____

AE-(C) AIIMS RAIPUR	AE-(E) AIIMS RAIPUR	EE AIIMS RAIPUR

Approved by

Superintending Engineer
AIIMS RAIPUR

INDEX

Name of Work: **"Annual Repair and Maintenance of Civil/Horticulture/Electrical/plumbing of Hospital Buildings, Medical College Building, Nursing College, Ayush PMR Building, Trauma Building, Service Buildings & Hostels at All India Institute of Medical Sciences, (AIIMS) Raipur".**

Certified that this bid document contains pages **1 to 130** (**One to One Hundred Thirty)** including front and back cover page and of Part –A, Part –B and Part –C).

This N.I.T. is approved for **Civil + Electrical (₹ 76, 05,126/-)** (Rupees Seventy Six Lac Five Thousand One Hundred Twenty Six only).

PRESS NOTICE

The **Superintending Engineer,**, AIIMS, Raipur invites on behalf of AIIMS, Raipur offline Item rate tenders from approved and eligible contractors enlisted in CPWD as well as in MES, BSNL, Railway or Buildings and Roads wing of State PWD's (in case there is no PWD, then state government's departments dealing with Buildings and Roads)in appropriate class for the following work at office of the SE , AIIMS Raipur.

Sl. No.	NIT No.	Name of work & Location	Estimated cost	Earnest Money	Period of Completion	Time & Date of submission of Tender	Time & Date for Opening Of Technical & Eligible Credential	Financial bid opening will be intimated to the eligible bidder.
1	2	3	4	5	6	7	8	9
1	**02/SE/AIIMS/2016-17**	**Annual Repair and Maintenance of Civil/ Horticulture/ Electrical/ plumbing of Hospital Buildings, Medical College Building, Nursing College, Ayush PMR Building, Trauma Building, Service Buildings & Hostels at All India Institute of Medical Sciences, Raipur**	**₹ 76,05,126/-**	**₹ 1, 52, 103/-**	**12 (Twelve) Month**	**Up to 3:00 PM on 31-08-2016**	**3:30 PM on 31-08-2016**	**By E-Mail Only**

The tender forms and other details can be seen and downloaded from the website www.aiimsraipur.edu.in and to be submitted to Office of the Superintending Engineer, AIIMS Raipur with the followings:

i) **Rs.1,140/- in form of Demand Draft of a Scheduled Bank issued in favor of "AIIMS Raipur" as cost of tender (non refundable) .**

- ✓ The enlistment of the contractors should be valid on the last date of sale of tenders.
- ✓ In case only the last date of sale of tender is extended, the enlistment of contractor should be valid on the original date of sale of tenders.
- ✓ In case both the last date of receipt of application and sale of tenders are extended the enlistment of contractor should be valid on either of the two dates i.e. the original date of sale of tenders or on the extended date of sale of tenders.
- ✓ The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.

Superintending Engineer,
AIIMS Raipur

IMPORTANT INSTRUCTIONS TO TENDERERS WHO HAVE DOWNLOADED THE TENDER DOCUMENT FROM WEB

The tenderers, who have down loaded the tenders from the web, should read the following important instructions carefully before actually quoting the rates & submitting the tender documents:-

The tenderer should see carefully & ensure that the **complete tender document** including schedule of quantity as **per the index** given on page **'1'** has been down loaded & there **are 130 pages** in all in the tender document.

The printout of tender document should be taken both side on A4 size paper only & the printer settings etc are such that document is printed as appearing in the web & there is no change in formatting, number of pages etc.

The tenderer should ensure that no **page** in the down loaded tender document is **missing**.

The tenderer should ensure that all pages in the down loaded tender document are **legible & clear** & are printed on a good quality paper.

The tenderer should ensure that **every page** of the down-loaded tender document is **signed by tenderer with stamp (seal).**

The tenderer should ensure that the down loaded tender document is properly **bound and sealed** before submitting the same. The loose / spiral bound and/or not properly sealed tenders shall be rejected out-rightly.

In case of any correction/addition/alteration/omission in the downloaded tender document, it shall be treated as non-responsive tender and shall be rejected.

The tenderer shall furnish a declaration to this effect that no addition/ deletion/corrections have been made in the tender document submitted and it is identical to the tender document appearing on Web-site.

The tenderer should read carefully & **sign the declaration** given on the page **No.05** before submitting the tender.

The **cost of tender** should be submitted along with the EMD as detailed in NIT.

Extension of date of closing of tender if any, will decided by the tender acceptance authority .Corrigendum shall be uploaded on AIIMS website only. Contractor who are interested to participated in this NIT are advised to visit our website www.aiimsraipur.edu.in regularly. In case of any doubt in the down loaded tender, the same should be got clarified from (Tender inviting authority) before submitting the tender.

Contractor

Superintending Engineer,
AIIMS Raipur

D E C L A R A T I O N

(TO BE GIVEN BY THE TENDERERS WHO HAVE DOWNLOADED THE TENDER DOCUMENT FROM THE WEB)

It is to certify that:

1) I / We have submitted the tenders in the Performa as downloaded directly from the website & there is no change in formatting, number of pages etc**.**

2) I/ We have submitted tender documents which **are same / identical** as available in the website.

3) I / We have **not made any modification / corrections / additions etc** in the tender documents downloaded from web by me / us.

4) I / We have checked that **no page is missing** and all pages as per the index are available & that all pages of tender document submitted by us are **clear & legible**.

5) I / We have **signed (with stamp) all the pages** of the tender document before submitting the same.

6) I / We have sealed the tender documents properly before submitting the same.

7) I / We have submitted the **cost of tender** along with the EMD.

8) I / We have submitted the details of average annual financial turnover of last available three consecutive balance sheets duly audited by Charted Accountant (applicable for **Non-CPWD** Contractor).

9) I / We have submitted a solvency Certificate in prescribed Performa (applicable for **Non-CPWD** Contractor).

10) I / We have provided our valid E-mail id for any communication in this regard. This E-mail Id will be activated till the contract is on.

11) I have read carefully & understood the important instructions to the all tenderers & to tenderers who have down loaded the tenders from the web.

12) In case at any stage later, it is found there is difference in our downloaded tender documents from the original, AIIMS RAIPUR shall have the absolute right to take any action as deemed fit without any prior intimation to me / us.

13) In case at any stage later, it is found there is difference in our downloaded tender documents from the original, the tender / work will be cancelled and Earnest Money/ Security Deposit will be forfeited at any stage whenever it is so noticed. The department will not pay any damages to me / us on this account.

14) In case at any stage later, it is found there is difference in our downloaded tender documents from the original, I / We may also be debarred for further participation in the tender in the concerned office of The Superintending Engineer, AIIMS RAIPUR & would also render me / us liable to be removed from the approved list of contractors of the Department.

Date……. **Contractor**
E-Mail:_____ **(Sign with Seal)**

CPWD-6

All India Institute of Medical Sciences, Raipur

Notice Inviting Tender

1 Offline item rate tenders are invited on behalf of AIIMS Raipur from approved and eligible contractors enlisted in CPWD as well as in MES, BSNL Railway or Buildings and Roads wing of State PWD's (in case there is no PWD, then state government's departments dealing with Buildings and Roads)in appropriate class for the work of **"Annual Repair and Maintenance of Civil/Horticulture/Electrical/plumbing of Hospital Buildings, Medical College Building, Nursing College, Ayush PMR Building, Trauma Building, Service Buildings & Hostels at All India Institute of Medical Sciences, (AIIMS)Raipur. "**The enlistment of the contractors should be valid on the last date of submission of bids. In case the last date of submission of bid is extended, the enlistment of contractor should be valid on the original date of submission of bids.

1.1 The work is estimated to one component **Civil + Electrical** Cost of ₹ **76, 05,126/-** This estimate, however, is given merely as a rough guide.

1.1.1 The authority competent to approve NIT for the combined cost and belonging to the major discipline will consolidate NITs for calling the bids. He will also nominate Division which will deal with all matters relating to the invitation of bids.
For composite bid, besides indicating the combined estimated cost put to bid, should clearly indicate the estimated cost of each component separately. The eligibility of bidders will correspond to the combined estimated cost of different components put to bid.

1.2 Intending bidders is eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed Same as or similar works of magnitude specified below:-

1.3 Criteria of eligibility for Contractors/Firms.

1.3.1 **Contractor Registered in CPWD:** The Contractors/firms who are approved and eligible by CPWD and the Contractors/firms enlisted in CPWD in appropriate class shall be eligible for participating in this NIT.

Or

1.3.2 **Condition for non-CPWD contractor only:** The Contractors/firms who are registered other then CPWD, like MES, BSNL, Railway or Buildings and Roads wing of State PWD's (in case there is no PWD, then state government's departments dealing with Buildings and Roads)in appropriate class shall also be eligible for participating in this NIT.

I. The Non CPWD contractors need to be submitted the details of average annual financial turn over (gross) of **Rs 76, 05,126.00** on Civil & Electrical maintenance/construction work during the last available three consecutive balance sheets (may range from six to eighteen months) duly audited by Charted Accountant. Year in which no turnover is shown would also be considered for working out the average.

II. The Contractors should not have incurred any loss in more than two years during available last five consecutive balance sheets, duly certified and audited by the Chartered Accountant.

III. The Contractors should have a solvency of **Rs 30, 42,050.00** Certified by his Bankers.
(Not required if applicant is a Class-I (**Civil + Electrical**) registered contractor of CPWD)*

IV. Non-CPWD contractor 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 Same as or similar completed works costing not less than the amount equal to 40% of estimated Cost Put to tender,

Or

(b) Two Same as or similar completed works, costing not less than the amount equal to 60% of the estimated Cost put to tender,

Or

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

"Same as or similar works means "Repairing/Maintenance work of Civil/Horticulture/Electrical/plumbing of Buildings /Quarters."

The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum; calculated from the date of completion to last date of receipt of tenders.

2. Agreement shall be drawn with the successful bidders on prescribed Form No. CPWD 8 which is available at the office of Superintending Engineer, AIIMS RAIPUR. Bidders shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.

i. General conditions of contract 2014 for works in ALL INDIA INSTITUTE OF MEDICAL SCIENCES, RAIPUR are also available in the office of SUPERINTENDING ENGINEER, AIIMS RAIPUR. Contractors should go through the different clauses of **"CPWD General Conditions of Contract 2014"** corrected up-to-date before quoting the rates.

3. The time allowed for carrying out the work will be **12 (Twelve) Months** from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.

4. (i) The site for the work is available.

~~OR~~

~~The site for the work shall be made available in parts as specified below:-~~

(ii) ~~The architectural and structural drawing for the work is available.~~

~~OR~~

(ii) The architectural and structural drawings shall be made available in phased manner, as per requirement of the same as per approved programme of completion submitted by the contractor after award of the work.

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 except Standard General Conditions of Contract Form can be seen from website www.aiimsraipur.edu.in free of cost.

6 Tender Cost and EMD

6.1 Cost of Tender **in form of Demand Draft of a Scheduled Bank issued in favor of "AIIMS Raipur" (non refundable),** Shall be submitted with the tender in a separate Envelope-1.

6.2. Earnest Money in the form of Demand Draft or Pay Order or Banker`s Cheque or Deposit at Call Receipt or Fixed Deposit Receipt of a Scheduled Bank (drawn/ Pledged in favor of **AIIMS, Raipur)** shall be submitted with the tender in a separate envelope-1.

~~A part of earnest money is acceptable in the form of Bank Guarantee also. In such case, minimum 50% of earnest money or Rs. 20 lac, whichever is less, shall have to be deposited in shape prescribed above, and balance may be deposited in shape of Bank Guarantee of any Scheduled Bank having validity for six months or more from the last date of receipt of bids which is to be submitted by the intending bidders.~~

Note: Money due to contractor in any other work or earnest money of the previous call of the same work shall not be adjusted towards earnest money.

7 Tenders, which should always be placed in sealed envelope, in the manner detailed at Para 8 below, will be received by the OFFICE OF SUPERINTENDING ENGINEER AIIMS RAIPUR up to 15.00 Hrs on **31-08-2016** and will be opened by him or his authorized representative in his office on the same day at 15.30 Hrs. After opening the main envelope 3, the envelope-1 containing the Cost of Tender along with Earnest Money as applicable and eligibility credentials shall be opened first. **The envelope 2 containing financial bid shall be opened only for those tenderers who's Earnest Money, cost of tender and eligibility is found in order**.
The unopened tenders shall be returned to the tenderers after the final decision on the tender is reached.

8 Submission of tender: -Tender shall be submitted in following manner:

The tender document can be downloaded from AIIMS Raipur website www.aiimsraipur.edu.in/tenders.

8.1 In case the tender document is down loaded from AIIMS Raipur website

8.1.1: "Cost of Tender along with Earnest Money and copies of documents showing eligibility credentials" shall be placed in sealed envelope-1. Marked

"Cost of Tender along with Earnest Money and eligibility credentials (Technical Bid)".

8.1.2: The Financial Bid shall be placed in sealed envelope-2 and will be superscripted as **"Tender (Financial Bid)".**

8.1.3: The sealed envelopes 1 & 2 shall be placed in another sealed envelope no3.

8.1.4 All the three envelopes shall be superscripted with following data on it.

(i) Name of work
(ii) Name of tenderer
(iii) Last date of receipt of tender & time.
(iv) Email ID ……..

~~**8.2 In case the tender document is purchased from office of SE, AIIMS Raipur**~~

~~8.2.1: "Proof for paying the cost of tender document along with Earnest Money and copies of documents showing eligibility credentials" shall be placed in sealed envelope-1. Marked~~

~~**"Proof for paying the cost of tender along with Earnest Money and eligibility credentials".**~~

~~8.2.2: Envelope no-2 will be as per para 8.1.2.~~

~~8.2.3: The sealed envelopes 1 & 2 shall be placed in another sealed envelope no3.~~
~~8.2.4 – same as 8.1.4~~

Note: In case the eligibility credentials are not found in order at any stage i.e. before award of work or during execution of the work or after completion of the work, the contractor will be debarred from tendering in AIIMS RAIPUR for three years including any other action under the contract or existing law.

9. The bid submitted shall become invalid and tender cost shall not be refunded if:
   (i) The bidder is found ineligible.
   (ii) The bidder does not submit all the documents (including service tax registration/VAT registration / Sales Tax registration) as stipulated in the bid document including the undertaking about deposition of physical EMD with the tender.

10. The contractor whose bid is accepted will be required to furnish performance guarantee of 5% (Five Percent) of the bid amount within the period specified in Schedule F. This guarantee shall be in the form of Deposit at Call Receipt of any Scheduled Bank/Banker's Cheque of any Scheduled Bank/Demand Draft of any Scheduled Bank/Pay Order of any Scheduled Bank (in case guarantee amount is less than Rs. 1, 00,000/-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F', 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 bid shall be returned after receiving the aforesaid performance guarantee.

11. Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, 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 bidder 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 and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.

12 The competent authority on behalf of the 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 bidders shall be summarily rejected.

13. 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 for rejection.

14. The competent authority on behalf of AIIMS Raipur 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.

15. 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 Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer to 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 Gazetted 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.

16. No Engineer of Gazetted Rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the bid or engagement in the contractor's service.

17. The bid for the works shall remain open for acceptance for a period of sixty (60) days from the date of opening of bids. If any bidder withdraws his bid before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the bid which are not acceptable to the department, **then the Government/AIIMS shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the bidder shall not be allowed to participate in the re-bidding process of the work.**

18. 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 : -
a) Standard C.P.W.D. Form 7/8 or other Standard C.P.W.D. Form as applicable

19. **For ~~Single Bid~~ or Composite Bids**

19.1.1 The Superintending Engineer, in Charge of the major component will call bids for the composite work. The Earnest Money will be fixed with respect to the combined estimated cost put to tender for the composite bid.

19.1.2 The bid document will include following three components:

Part A:- Press Tender Notice, CPWD-6, CPWD-7/8 including Standard General Conditions of Contract for CPWD, 2014 as amended / modified upto CON/282.

Part B:- Particular Specifications and Special conditions, specifications and schedule of quantities as applicable to major component of the work.

Part C:- Schedule A to F for minor component of the work. (SE/EE in charge of major component shall also be competent authority under clause 2 and clause 5 as mentioned in Schedule A to F for minor components). Special Conditions, additional terms & conditions, specifications and schedule of quantities applicable to minor component(s) of the work.

19.1.3 The bidder must associate with himself, agencies of the appropriate class eligible to bid for each of the minor component individually.

19.1.4 The eligible bidders shall quote rates for all items of major component as well as for all items of minor components of work.

19.1.5 After acceptance of the bid by competent authority, the SE/EE in charge of major component of the work shall issue letter of award on behalf of the AIIMS Raipur. After the work is awarded, the main contractor will have to enter into one agreement with SE/EE in charge of major component and has also to sign two or more copies of agreement depending upon number of EE' s in charge of minor components. One such signed set of agreement shall be handed over to SE / EE in charge of minor component. EE of major component will operate Part A and Part B of the agreement. SE / EE in charge of minor component(s) shall operate Part C along with Part A of the agreement.

19.1.6 Entire work under the scope of composite bid including major and all minor components shall be executed under one agreement.

19.1.7 Security Deposit will be worked out separately for each component corresponding to the estimated cost of the respective component of work.

19.1.8 The main contractor has to associate agency(s) for minor component(s) conforming to eligibility criteria as defined in the bid document and has to submit detail of such agency(s) to Engineer-in-Charge of minor component(s) within prescribed time. Name of the agency(s) to be associated shall be approved by Engineer-in-Charge of minor component(s).

19.1.9 In case the main contractor intends to change any of the above agency/agencies during the operation of the contract, he shall obtain prior approval of Engineer-in-charge of minor component. The new agency/agencies shall also have to satisfy the laid down eligibility criteria. In case Engineer-in-Charge is not satisfied with the performance of any agency, he can direct the contractor to change the agency executing such items of work and this shall be binding on the contractor.

19.1.10 The main contractor has to enter into agreement with contractor(s) associated by him for execution of minor component(s). Copy of such agreement shall be submitted to SE / EE in charge of each minor component as well as to SE / EE in charge of major component. In case of change of associate contractor, the main contractor has to enter into agreement with the new contractor associated by him.

19.1.11 Running payment for the major component shall be made by SE/ EE of major discipline to the main contractor. Running payment for minor components shall be made by the Engineer-in-charge of the discipline of minor component directly to the main contractor.

19.1.12(A) The composite work shall be treated as complete when all the components of the work are complete. The completion certificate of the composite work shall be recorded by Engineer -in -charge of major component after record of completion certificate of all other components.

19.1.12(B) Final bill of whole work shall be finalized and paid by the SE/EE of major component. Engineer(s) in charge of minor component(s) will prepare and pass the final bill for their component of work and pass on the same to the EE of major component for including in the final bill for composite contract.

FORM 'A'
FINANCIAL INFORMATION

I. Financial Analysis – Details to be furnished duly supported by figures in balance sheet/ profit & loss account for the last five years duly certified by the Chartered Accountant, as submitted by the applicant to the Income Tax Department (Copies to be attached).

Years

(i) Gross Annual turnover on construction works.
(ii) Profit/Loss.

II. Financial arrangements for carrying out the proposed work.
III. Solvency Certificate from Bankers of the bidder in the prescribed Form "B".

Signature of Chartered Accountant with Seal

Signature of Bidder(s).

FORM "B"
FORM OF BANKERS' CERTIFICATE FROM A SCHEDULED BANK

This is to certify that to the best of our knowledge and information that M/s./ Sh…….having marginally noted address, a customer of our bank are/is respectable and can be treated as good for any engagement upto a limit of Rs……. (Rupees……..)
This certificate is issued without any guarantee or responsibility on the bank or any of the officers.

(Signature)
For the Bank

NOTE (1) Bankers certificates should be on letter head of the Bank, sealed in cover addressed to tendering authority.
(2) In case of partnership firm, certificate should include names of all partners as recorded with the Bank.

INTEGRITY PACT

To,

Sub: NIT No. **02/SE/AIIMS/2016-17** for the work of **"Annual Repair and Maintenance of Civil/Horticulture/Electrical/plumbing of Hospital Buildings, Medical College Building, Nursing College, Ayush PMR Building, Trauma Building, Service Buildings & Hostels at All India Institute of Medical Sciences, (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,

Superintending Engineer,
AIIMS Raipur

To,

The Superintending Engineer,
AIIMS Raipur

Sub: Submission of Tender for the work **"Annual Repair and Maintenance of Civil/Horticulture/Electrical/plumbing of Hospital Buildings, Medical College Building, Nursing College, Ayush PMR Building, Trauma Building, Service Buildings & Hostels at All India Institute of Medical Sciences, (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 Tender (NIT) 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)

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

INTEGRITY AGREEMENT

This Integrity Agreement is made at..... on this..... day of..... 20

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 Tender (NIT No. **02/SE/AIIMS/2016-17**) (hereinafter referred to as "**Tender/Bid**") and intends to award, under laid down organizational procedure, contract for **Annual Repair and Maintenance of Civil/Horticulture/Electrical/plumbing of Hospital Buildings, Medical College Building, Nursing College, Ayush PMR Building, Trauma Building, Service Buildings & Hostels at All India Institute of Medical Sciences, Raipur**. Here in after 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. Same as or 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. 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 **Head quarters 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
Tender & Contract for Works

Tender for the work of : **"Annual Repair and Maintenance of Civil/Horticulture/Electrical/plumbing of Hospital Buildings, Medical College Building, Nursing College, Ayush PMR Building, Trauma Building, Service Buildings & Hostels at All India Institute of Medical Sciences, Raipur**

(i) **To be submitted by 03.00 PM hours on 31-08-2016 to The Superintending Engineer, AIIMS, Raipur.**

(ii) **To be opened in presence of tenderers who may be present at 03.30 PM hours on 31-08-2016 in the office of The Superintending Engineer, AIIMS, Raipur.**

Issued to……

Signature of officer issuing the documents ……

Designation..……..……..……..

Date of Issue ……..…

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 Sixty (60) days from the due date of opening of financial bid and not to make any modification in its terms and conditions.

A sum of ₹ **1,52,103/-** is hereby forwarded in 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 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 **The Superintending Engineer, AIIMS Raipur** or his successors, in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/We fail to commence work as specified, I/We agree that **The Superintending Engineer, AIIMS Raipur** 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 tender form. **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 Same as or 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 there from to any person other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Dated **#**.....

Witness : **#**

Address: **#**

Occupation : **#**

Signature of Contractor**#**

Postal Address**#**

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.....

ANNEXURE – 'A'

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 first written demand, without the Engineer-in-Charge having to substantiate his demand, provided that in his demand the Engineer-in-Charge will note that the amount claimed by him 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)

PART-B

PARTICULAR SPECIFICATIONS & SPECIAL CONDITIONS

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 15 days from the stipulated date of start of the work based on computer software such as MS Project etc. and shall update the same every fortnight.
The contractor shall submit monthly progress report of the work in a computerized form. The progress report shall contain the following, apart from whatever else may be required as specified :

(i) Project information, giving the broad features of the contract of the work under the contract, and the broad structural or other details.

(ii) Introduction, giving a brief scope of the work under the contract, and the broad structural or other details.

(iii) Construction schedule of the various components of the work through a bar chart for the next three quarters (or as may be specified), showing the milestones, targeted tasks and upto date progress.

(iv) Progress chart of the various components of the work that are planned and achieved, for the month as well as cumulative upto the month, with reasons for deviations, if any, in a tabular format.

(v) Plant and machinery statement, indicating those deployed in the work, and their working status.

(vi) Man-power statement, indicating individually the names of all the staff deployed in the work, along with their designations.

(vii) Financial statement, indicating the broad details of all the running account payments received upto date, such as gross value of work done, advances taken, recoveries effected, amounts withheld, net payments, details of cheque payments received, etc.

(viii) A statement showing the extra and substituted items submitted by the contractor, and the payments received against them, items pending for sanction/decision by the Department, broad details of the Bank Guarantees, indicating clearly their validity periods, broad details of the insurance policies taken by the contractor, if any, the advances received and adjusted.

(ix) Progress photographs, in color, of the various items/components of the work done up to date, to indicate visually the actual progress of the work.

(x) Quality assurance and quality control tests conducted during the month, with the results thereof.

(xi) Videography at various stages of construction right from the day of start of work to date of completion/occupation, covering all major events, inspections, visits by dignitaries etc.

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.**

2.0 FLOORING, SKIRTING, VENEERING, DADO, TREADS & RISERS OF STEPS, JAMBS, SILLS & SOFFITS

2.1 Nothing extra shall be payable for using combination of marble, granite and kota in the required pattern at various locations unless otherwise specified.

2.2 Flooring in toilets, verandah, kitchen, courtyard and at other places if required shall be laid to the required slope/gradient as per the directions of the Engineer-in-Charge and nothing extra shall be paid on account of the same.

2.3 The pattern, spacing and locations of joints shall be as per drawings and direction of the Engineer-in-Charge and nothing extra shall be paid on account of the same.

3.0 SPECIALISED ITEMS

3.1 LIST OF SPECIALISED ITEMS:

1. Water proofing treatment work
2. Laying of granite stone flooring
3. Special foundations including all types of piles.
4. Fibrous plaster ceiling.
5. Acoustic treatment and other decorative items such as glass ceiling.
6. Aluminum doors and windows, aluminum partition.
7. Underground tank.
8. Guniting, Ready mix concrete.
9. Aluminum composite panel.
10. Swimming pool.
11. Fabrication and erection of space frame including covering with lightweight poly carbonate roofing.
12. Diaphragm walls.
13. Anti-termite chemical treatment.
14. Stainless steel cladding and stainless steel railing.
15. Structural glazing work,
16. Fiber glass doors.
17. Stone works such as:
    (a) Ashlar stone masonry work.
    (b) Stone jali work.
    (c) Italian marble work.

18. Superior water supply fittings such as Jacuzzi steam cabins, cascades, etc.
19. Sensor operated system for flushing.
20. Plumbing with copper/polypropylene pipes using advanced technology for jointing.
21. Textured finishing work.+
22. Signages
23. Wooden flooring

3.2 **Procedure for Execution of the Specialized Items:**

Such items should be got executed only through associated agencies specialized in these fields. The contractor shall indicate the name(s) of his associated specialized agencies those fulfilling the conditions described for the respective item/s as early as possible and within one month of award of work to Engineer-in-Charge for approval.

The contractors who are not registered in CPWD, MES, BSNL, Chhattisgarh State PWD and Railway, they can also participate in this tender if the following Same as or similar works has been completed by the firm up to the amount given as below.

3.2.1 Description of Item: **Repair and Maintenance of Civil/Horticulture/Electrical/ plumbing of Buildings. (Sub Head – 01)**

Condition:-

Experience of having successfully completed three Same as or similar works each of value not less than Rs. 60, 84,101/-, two Same as or similar works each of value not less than Rs. 45, 63,076/- or one Same as or similar work of value not less than Rs. 30, 42,050/-, during last seven years ending previous day of last date of submission of application.

3.3 **Specialized Agencies**

3.3.1 List of Specialized Agencies for certain items in case of **Civil/Horticulture/Electrical/ plumbing** works have been approved by the competent authority and given in the tender documents unless specified otherwise. The contractors shall quote the rates after careful study of contract conditions, specifications, drawings & schedule of quantities.

3.3.2 It shall be the responsibility of main contractor to sort out any dispute / litigation with the Specialized Agencies without any time & cost overrun to the Department. The main contractor shall be solely responsible for settling any dispute / litigation arising out of his agreement with the Specialized Agencies. The contractor shall ensure that the work shall not suffer on account of litigation/ dispute between him and the specialized agencies / sub-contractor(s). No claim of hindrance in the work shall be entertained from the Contractor on this account. No extension of time shall be granted and no claim what so ever, of any kind, shall be entertained from the Contractor on account of delay attributable to the selection/rejection of the Specialized Agencies.

3.3.3 For specialized items, the main contractor cannot work as a specialized agency unless his name is already included in the list of approved specialized agencies for these items. The contractor shall get these items executed through the specialized agencies as approved by competent authority.

3.4 RATES

3.4.1 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.

3.4.2 **The rates quoted by the tenderer, shall be firm and inclusive of all taxes and levies (including works contract tax but excluding service tax).**

3.4.3 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.

3.4.4 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.

3.4.5 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.

3.4.6 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.

3.5 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.

3.6 INSPECTION OF WORK

In addition to the provisions of relevant clauses of the contract, the work shall also be open to inspection by the Superintending Engineer, AIIMS Raipur , and other senior officers of AIIMS Raipur in addition of the Engineer-in-Charge 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 Authorities shall also be inspecting the on-going work at site at any time with or without prior intimation.

3.7 GUARANTEE FOR WATER PROOFING TREATMENT:

The contractor shall give Ten years performance guarantee in the prescribed proforma for the water proofing treatment. **In addition 10% (Ten percent) of the cost of water proofing items shall be retained as security, to watch the performance of the work executed.** However, half of this amount (withheld) shall be released after five years, after the completion of the work, if no defect comes to notice. If any defect is noticed during the guarantee period, it shall be rectified by the contractor within Seven days after serving the notice by Department and, if not attended to, the same shall be got done through other agency at the risk and cost of the contractor. In any case the guaranteeing firms during the guarantee period shall inspect and examine the treatment once every year and make good any defect observed and Certificate to that effect shall be submitted to Department every year. However, the 10 % security deposit referred above can be replaced with bank guarantee of equivalent amount for relevant period.

4.0 Stainless Steel Railing/Handrails:

4.1 GENERAL

The contractor shall apply all materials, labour, tools, ladders, scaffolding and other equipments necessary for the completion and protection of all stainless steel work.

4.2 MATERIAL

All stainless steel pipes and plates shall conform to AISI 304 in 18/8 composition. 18 will be chromium and 8 will be Nickel and carbon content will be 0.03 maximum and the relevant clauses associated with this grade of steel to be followed.

4.3 SURFACE FINISH

Surface finish of all the stainless steel materials will be in 240 grit satin finish / matt finish.

4.4 ACCESSORIES

Fixing will be done by stainless steel expansion bolts of approved size and make as per Engineer-in-charge and welding to be done by using organ welding rods and the surface being duly finished and cleaned by K2 passivation, which is nitric acid plus floric acid solution treatment by which the chances of corrosion will be eliminated and any burn out makes on the metal will also be eliminated.

4.5 COATING MASS

All stainless steel material will have to be coated by a solution of Inox to avoid finger in prints and avoidance of settlement of environment / atmospheric dust.

4.6 MEASUREMENT

All the stainless steel finished parts shall be weighed correct to a gram and paid on weight basis.

4.7 RATE

The rate shall include the cost of all the materials, machinery and labour involved in all the operations described above including cartage, lifts and all taxes like Sales Tax / VAT, Excise duty, Octroi etc. as applicable.

Any incidental additional requirements for execution of this item to the satisfaction of Engineer-in-Charge shall also be treated as included in the item and shown in attached drawing and nothing extra will be paid for such extra work.

5.0 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 equipments 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 Chhatisgarh Pollution control board, Govt. of Chhattisgarh.

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, fire fighting, 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.

6.0 CONSUMPTION OF PIG LEAD AND IT'S VARIATION FOR SCI SANITARY PIPES AND FITTINGS AS PER IS:3989

In order to ensure that adequate lead is poured properly into the joints and to control waste in use of lead for caulking of joints of SCI pipes and fittings, at the beginning of the work three or four sample joints shall be made and the quantum of lead per joint approved by the Engineer in charge. The actual consumption of lead should be within variation of 5% of the approved sample job. This variation includes allowances of wastage also. If the actual consumption of pig lead is less than the required consumption worked out on the above basis, the recovery on account of less use of lead shall be made from the contractor at market rate to be determined by the Engineer-in-Charge, whose decision in the matter shall be final & binding.

7.0 CONDITION FOR CEMENT:-

7.1 The Contractor shall procure 43 grade Ordinary Portland cement (conforming to IS : 8112) or Portland slag cement (conforming to IS : 455) or Portland Pozzolana Cement (PPC) (Fly ash based) – conforming to IS : 1489 (Part-I) as required in the work, from reputed manufacturers of cement such as ACC, Ultratech, Vikram, Shree Cement, Ambuja, Jaypee Cement, Century Cement t & JK Cement or from any other reputed cement Manufacturer having a production capacity not less than one million tons per annum as approved by Engineer In-charge.

The tenderers may also submit a list of names of cement manufacturers which they propose to use in the work. The tender accepting authority reserves right to accept or reject name(s) of cement manufacture(s) which the contractor proposes to use in the work. No change in the tendered rates will be accepted if the tender accepting authority does not accept the list of cement manufacturer, given by the tenderer, fully or partially.

The supply of cement shall be taken in 50 Kg bags bearing manufacturer's name and ISI marking. Samples of cement arranged by the contractor shall be taken by the Engineer-in-Charge and got issue in accordance with provisions of relevant BIS codes. In case test results indicate that the cement arranged by the Contractor does not conform to the relevant BIS codes, the same shall stand rejected and shall be removed from the site by the Contractor at his own cost within a week's time of written order from the Engineer-in-Charge to do so.
If Portland Pozzolana cement or Portland slag cement is used, suitable modification in deshuttering time etc. shall be done if need be as per specifications and standards and as directed by Engineer – in – Charge and nothing extra shall be payable on this account.
No extra payment / deduction shall be made from the payment to the contractor for using any of the above type of cement.

7.2 The cement shall be brought at site in bulk supply of approximately 50 tonnes or as decided by the Engineer - in - Charge.

7.3 For each grade / type, cement bags shall be stored in two separate godowns, one for tested cement and the other for fresh cement (under testing) constructed by the contractor at site of work as per sketch shown in General Conditions of Contract for CPWD Works, 2014 with weather proof roofs and walls, for which no extra payment shall be made. The size of the cement godown is indicated in the sketch for guidance only. The actual size of godown shall be as per site requirements and as per the direction of the Engineer in Charge and nothing extra shall be paid for the same. The decision of the Engineer-in-Charge regarding the capacity required/needed will be final. However, the capacity of each godown shall not be less than 100 tonnes. Each godown shall be provided with a single door with two locks. The keys of one lock shall remain with Engineer-in-Charge or his authorized representative and that of other lock with the contractor at the site of work so that the cement is issued from godown according to the daily requirement with the knowledge of both the parties. The account of daily receipt and issue of cement shall be maintained in a register in the prescribed Proforma and signed daily by the contractor or his authorized agent in token of its correctness.

7.4 The cement shall be got tested by Engineer –in –Charge and shall be used on the work only after satisfactory test results have been received. The contractor shall supply free of charge the cement required for testing including its transportation cost to testing laboratories. **The cost of tests shall be borne by the contractor / Department in the manner indicated below:-**

(a) By the contractor, if the results show that the cement does not conform to relevant BIS codes.

(b) By the Department, if the results show that the cement conforms to relevant BIS codes.

7.4.1 All other charges of sampling, packing and transportation of sample shall also be borne by the Contractor.

7.5 The actual issue and consumption of cement on work shall be regulated and proper accounts maintained separately for each type of cement, as provided in Clause 10 of the contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in Clause 42 of the contract and shall be governed by conditions laid therein. However, for consumption lesser beyond permissible theoretical variation recovery shall be made in accordance with conditions of contract at Schedule A to F (CPWD-8), without prejudice to action for acceptance of work/item at reduced rate or rejection as the case may be. In case of excess consumption no adjustment shall be made.

7.6 Cement brought to site and cement remaining unused after completion of work shall not be removed from site without written permission of the Engineer-in-Charge.

7.7 The damaged cement shall be removed from the site immediately by the contractor on receipt of a notice in writing from the Engineer-in-Charge, if he does not do so within 3 days of receipte of such notice, the Engineer-in-Charge shall get it removed at the cost of the Contractor.

8.0 CONDITIONS FOR REINFORCEMENT STEEL :-

8.1 The contractor shall procure TMT bars of ~~Fe 415 / Fe 415D~~ / Fe 500/ Fe 500D ~~/ Fe 550 / Fe 550D~~ grade from primary producers such as SAIL, Tata Steel Ltd., RINL, Jindal Steel & Power Ltd. and JSW Steel Ltd. or any other producer as approved by CPWD who are

using iron ore as the basic raw material / input and having crude steel capacity of 2.0 Million tonne per annum and above.

In case of non-availability of steel from primary producers, use of TMT reinforcement bars procured from steel producers having Integrated Steel Plants (ISPs) using iron ore as the basic raw material for production of crude steel which is further rolled into finished shapes in-house having crude steel capacity of 0.5 million tonne per annum or more will be allowed subject to fulfillment of following conditions:

a. The grade of the steel such as ~~Fe 415 / Fe 415D~~ / Fe 500 / Fe 500D ~~/ Fe 550 / Fe 550D~~ or other grade to be procured is to be specified as per BIS : 1786 - 2008.

b. The secondary producers must have valid BIS licence to produce HSD bars conforming to IS 1786 : 2008. In addition to BIS licence, the secondary producer must have valid licence from either of the firms Tempcore, Thermex, Evcon Turbo & Turbo Quench to produce TMT Bars.

c. The TMT bars procured from Primary Producers and ISPs shall conform to manufacturer's specifications.

d. The TMT bars procured from secondary producers shall conform to the specifications as laid down by Tempcore, Thermex, Evcon Turbo and Turboquench as the case may be.

e. TMT bars procured either from Primary Producers, ISPs or secondary producers, the specifications shall meet the provisions of IS 1786 : 2008 pertaining to ~~Fe 415 / Fe 415D~~ / Fe 500 / Fe 500D ~~/ Fe 550 / Fe 550D~~ or other grade of steel as specified in the tender.

8.2 Samples shall also be taken and got tested by the Engineer-in-Charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications as defined under para 8.1(d) & 8.1 (e) above, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week time of written orders from the Engineer-in-Charge to do so.

In case contractor is permitted to use TMT reinforcement bars procured from secondary producers then:

(i) The base price of TMT reinforcement bars as stipulated under Schedule 'F' shall be reduced by Rs. 6700/- MT. However, for operation of provisions of Clause 10CA in such case, the indices for TMT reinforcement bars of secondary producers will be considered same as for primary producers.

(ii) The rate of providing & laying TMT reinforcement bars as quoted by the contractor in the tender shall also be reduced by Rs. 8.00 per kg.

8.3 The steel reinforcement bars shall be brought at site in bulk supply of 25 tonnes or more as decided by the Engineer in Charge.

8.4 The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to prevent distortion and corrosion, and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.

8.5 For checking nominal mass, tensile strength, bend test, re-bend test, etc. specimen of sufficient length shall be cut from each size of the bar at random at frequency not less than that specified below:

Dia of bar	For consignment below 100tones	For consignment above 100tones
Under 10 mm	One sample for each 25 tonnes or part thereof	One sample for each 40tonnes or part thereof
10 mm to 16mm	One sample for each 35 tonnes or part thereof	One sample for each 45tonnes or part thereof
Over 16mm	One sample for each 45 tonnes or part thereof	One sample for each 50tonnes or part thereof

8.6 The contractor shall supply free of charge the steel required for testing including its transportation to testing laboratories. **The cost of tests shall be borne by the contractor.**

8.7. **All other charges of sampling, packing and transportation of sample shall also be borne by the Contractor.**

8.8 The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in Clause 10 of the contract. The theoretical consumption of steel shall be worked out as per procedure prescribed in Clause 42 of the contract and shall be governed by conditions laid therein. In case the consumption is less than theoretical consumption including permissible variations, recovery at the rate so prescribed shall be made. In case of excess consumption no adjustment need to be made.

8.9 The steel brought to site and remaining unused shall not be removed from site without the written permission of Engineer-in-Charge**.**

8.9(i) **Reinforcement including authorized spacer bars and lappages shall be measured in length for different diameters as actually (not more than as specified in the drawings) used in the work nearest to a centimeter. Wastage and unauthorized overlaps shall not be measured.**

(ii) The standard sectional weights referred to shall be as in Table 5.4 in para 5.3.4 in revised CPWD Specifications, 2009 Vol. I will be considered for conversion of length of various sizes of TMT bars in to standard weight.

(iii) Record of actual sectional weights shall also be kept dia wise and lot wise. The average sectional weight for each diameter shall be arrived at from samples from each lot of steel received at site. The decision of the Engineer in Charge shall be final for the procedure to be followed for determining the average sectional weight of each lot. Quantity of each diameter of steel received at site of work each day will constitute one single lot for the purpose. The weight of steel by conversion of length of various sizes of bars based on the actual weighted average sectional weight shall be termed as Derived Actual Weight.

(a) If the derived weight as in sub-para (iii) above is less than the standard weight as in sub-para (ii) above, then the Derived Actual Weight shall be taken for payment.

(b) If the derived actual weight is found more than the standard weight, than standard weight as worked out in sub para (ii) above shall be taken for payment. Nothing shall be paid extra for the difference in Derived/ Actual Weight and standard weight.

8.10 Every care should be taken to avoid mixing different types of grades of bars in the same structural members as main reinforcement to satisfy relevant clause of IS: 456. In case of buildings, wherever the situation necessitates, the change over shall be permitted only from any one level onwards. In case of foundations, all foundation elements (footings and grade beams) shall have the same kind of steel. In the case of columns, all structural elements up to the level of change, where the change over is taking place should have the same kind of steel as those in columns.

8.11 The reinforcing steel brought to site of work shall be stored on brick / timber platform of 30/40-cm height, nothing extra shall be paid on this account.

9.0 REINFORCED CEMENT CONCRETE WORK

9.1 DESIGN MIX CONCRETE

9.1.1 The RCC work shall be done with Design Mix Concrete unless otherwise specified. In the nomenclature of items wherever letter M has been indicated, the same shall imply for the Design Mix Concrete. For the nominal mix in RCC, CPWD Specifications shall be followed. The Design Mix Concrete will be designed based on the principles given in IS: 456-2000. The contractor shall design mixes for each grade of concrete indicating that the concrete ingredients and proportions will result in concrete mix meeting requirements specified. In case of use of admixture and or white cement, the mix shall be designed with these ingredients as well.

9.1.2 The concrete mix design will be carried out by the contractor through one of the following laboratories / Test houses and ready mix concrete shall conform to accepted design mix. a) MANIT, Bhopal. b) Govt. Engineering College, Ujjain. c) I.I.T., Delhi. d) NIT/Govt. Engineering College, Raipur. e) National Council for Cement & Building Materials, Ballabhgarh, Haryana,f) G.S.I.T.S., Indore g) MITS, Gwalior h) Govt. Engineering College, Jabalpur.

9.1.3 In the event of all the above laboratories being unable to carry out the requisite design / testing the contractor shall have to get the same done from any other laboratory with prior approval of the Engineer-in-Charge.

9.1.4 The contractor shall submit the mix design report from any of above approved laboratories for approval of Engineer-in-Charge within 45 days from the date of issue of letter of acceptance of the tender.

9.1.5 In case of white Portland cement and the likely use of admixtures where CC/RCC is done with concrete pumps in concrete with ordinary Portland/white Portland cement, the contractor shall design and test the concrete mix by using trial mixes with white cement and /or admixtures also, for which nothing extra shall be payable.

9.1.6 Each time when there is change of source or characteristic properties of the ingredients used in the concrete mix during the work, a revised mix design shall be done and approval obtained from the approved Laboratory or as per the direction of the Engineer-in-Charge. Preferably only single source of cement shall be kept for the work. In case contractor decides to use more than one source of approved cement brand then for each brand separate design mix shall be done and got approved by Engineer-in-charge.

9.1.7 The Mix shall be designed to produce the grade of concrete having required workability and characteristic strength not less than as specified.

9.1.8 The mix design for a specified grade of concrete shall be done for a target mean compressive strength T ck = F ck + 1.65 S

Where,
F ck = Characteristic compressive strength at 28 days.
S= Standard deviation
The standard deviation for each grade of concrete shall be calculated separately.
The degree of quality control for this work is "Good" for which the standard deviation (s) obtained for different grades of concrete shall be as follows:-

Grade of Concrete	For "Good" quality of control
M 20	4.0
M 25	4.0
M 30	5.0
M 35	5.0

9.1.9 Out of the six specimen of each set, three shall be tested at seven days and remaining three at 28 days. The preliminary tests at seven days are intended only to indicate the strength likely to be attained at 28 days. **All cost of mix designing and testing connected therewith including charges payable to laboratory shall be borne by the Contractor**.

9.1.10 The samples of cement, aggregate (fine & coarse) to be sent to the laboratories shall be sealed in the presence of the Engineer- in -Charge and shall have his signature and **cost of packaging, sealing, transportation, loading, unloading, cost of samples and the testing charges for Mix design in all cases shall be borne by the contractor.**

9.1.11 Notwithstanding the approval granted by Engineer-in-Charge in aforesaid manner, the contractor shall be fully responsible for quality of concrete including input control, transportation and placement etc.

9.1.12 The Engineer-in-Charge reserves the right to exercise control over the ingredients, water and admixtures purchased, stored and to be used in the concrete including conducting of tests for checking quality of materials fit or unfit for use in production of mix.

9.1.13. The Contractor shall submit the test data of the material used for concrete mix-design in the laboratories, so the material being used at site can be compared with those data / size, etc.

9.1.14 In case of change of parameters of ingredients (sand, cement, coarse aggregate) fresh concrete mix-design to be done as mentioned in paras 9.1.1, 9.1.2 & 9.1.6 to 9.1.10 above and got approved from the Engineer-in-Charge before execution.

9.1.15 The contractor shall make arrangement to install a mini laboratory at site for accelerated testing of design mix concrete as per IS : 9013. The department reserves right to take samples of design mix concrete from the mass production of the concrete for testing and compare with the laboratory's results.

9.1.16 Nothing shall be paid extra for installation and cost of batching plant and other arrangement for making necessary test of design mix concrete.

9.1.17 The item of design mix cement concrete shall be inclusive of all the ingredients including admixtures if required, labour, machinery T & P etc. (except shuttering which will be measured & paid for separately) required for a design mix concrete of required strength and workability. **The rate quoted by the agency shall be net &**

nothing extra shall be payable on account of change in quantities of concrete ingredients like aggregates and admixtures as per the approved mix design.

9.1.18 Concrete shall be handled from the place of mixing to the place of final deposit / placement by methods, which prevent segregation, or loss of any ingredients and contamination.

9.1.19 Where concrete is conveyed by chutes, the chute shall be made of metal or fitted with metal lining. The approval of the Engineer-in-Charge shall be obtained for the use of chutes in excess of 3 meters length and in such cases the concrete shall be remixed, if so required by the Engineer-in-Charge or closed bottom buckets shall be used. If concrete is placed by pumping, the conduit shall be primed properly. Once pumping is started, it shall not be interrupted as far as possible. Concrete shall not be dropped into place from a height more than 1.5m.

9.1.20 Concreting of any portion of the work shall be done in presence of the representative of the Engineer-in-Charge and shall be done only after approval of the Engineer-in-Charge.

9.1.21 Concreting shall be carried out continuously between constructions joints shown on the drawings or as agreed by the Engineer-in-Charge. The contractor shall closely follow the sequence of concreting where it is specified in the drawings. If concreting is interrupted before reaching the predetermined joint, an approved construction joint shall be provided. Construction joints shall be minimized as far as possible. These shall be set at right angles to the general direction of the member. The surface film of the first placed concrete should preferably be removed while the concrete is still green to expose the aggregate and leave a sound irregular surface. However care shall be taken not to disturb the concrete already laid.

9.1.22 **Admixtures:** Wherever required, admixtures of approved quality only shall be mixed with concrete as specified. The admixtures shall conform to IS: 9103. The chloride content in the admixture shall satisfy the requirements of BS: 5075. The total amount of chlorides in the admixture mixed concrete shall also satisfy the requirements of IS 456-2000.

9.1.23 Use of ready mixed concrete (RMC) may also be permitted, with prior approval of Engineer –in – Charge, without any extra payment. Separate account of design mix concrete and RMC shall however be kept. The ready mixed concrete shall conform to the requirement of durability, workability and strength as laid down for design mix concrete.

9.2 Use of Fly Ash and Fly Ash Blended Cements in RCC Structures :-

9.2.1. General

9.2.1.1 IS : 456-2000 Code of Practice for plain and Reinforced Concrete (as amended up to date) shall be followed in regard to Concrete mix Proportion and its production as under :-

9.2.1.1.1 The concrete mix design shall be done as “Design Mix Concrete” as prescribed in clause – 9 of IS 456 mentioned above.

9.2.1.1.2 Concrete shall be manufactured in accordance with clause 10 of above mentioned IS : 456 covering quality assurance measures both technical and organizational, which shall also necessarily require a qualified Concrete Technologist to be available during manufacture of concrete for certification of quality of concrete.

9.2.1.2 Minimum M25 grade of concrete shall be used in all structural elements made with RCC both in load bearing and framed structure.

9.2.1.3 The mechanical properties such as modulus of elasticity, tensile strength, creep and shrinkage of flyash mixed concrete or concrete using flyash blended cements (PPCs) should not likely to be significantly different and their values are to be taken same as those used for concrete made with OPC. Fly ash when used in the production of concrete shall be strictly in conformity with IS : 3812 (Para 1 & 10).

9.2.1.4 To control higher rate of carbonation in early ages of concrete both in flyash admixed as well as PPC based concrete, water / binder ratio shall be kept as low as possible, which shall be closely monitored during concrete manufacture. If necessitated due to low water / binder ratio, required workability shall be achieved by use of chloride free chemical admixtures conforming to IS : 9103. The compatibility of chemical admixtures and supper plasticizers with each set OPC, fly ash and / or PPC received from different sources shall be ensured by trials.

9.2.1.5 In environment subjected to aggressive chloride or sulphate attack in particular, use of flyash admixed or PPC based concrete is recommended. In cases, where structural concrete is exposed to excessive magnesium sulphate, flyash substitution / content shall be limited to 18% by weight. Special type of cement with low C3A content may also be alternatively used. Durability criteria like minimum binder content and maximum water / binder ratio also need to be given due consideration in such environment.

9.2.1.6 Wet curing period shall be enhanced to a minimum of 10 days or its equivalent. In hot and arid regions, the minimum curing period shall be 14 days or its equivalent.

9.2.2. Use of Fly ash Admixed Cement Concrete (FACC) in RCC Structures: - There shall be no bar on use of FACC in RCC structures subject to following additional conditions :-

9.2.2.1 Flyash shall have its chemical characteristics and physical requirements etc. conforming to IS : 3812 (Part-10) and shall be duly certified.

9.2.2.2 To ensure uniform blending of flyash with cement in conformity with IS : 456, a specific facility needs to be created at site with complete computerized automated process control to achieve design quality or with Same as or similar facility from Ready Mix concrete (RMC) plants.

9.2.2.3 As per IS : 1489 (Part-I), Maximum 35% of OPC by mass is permitted to be substituted with flyash conforming to IS : 3812 (Part-I)and same is reiterated.

9.2.2.4 Separate storage for dry flyash shall be provided. Storage bins or silos shall be weather proof and permit a free flow and efficient discharge of flysh. The filter or dust control system provided in the bins or silos shall be of sufficient size to allow delivery of flyash maintained at specified pressure to prevent undue emission of flyash dust, which may interfere weighing accuracy.

9.2.3. Use of Fly Ash Blended Cements in Cement Concrete (PPCC) in RCC structures

9.2.3.1 Subject to General Guidelines detailed out as above, PPC manufactured conforming to IS : 1489 (Part-I) shall be treated at par with OPC for manufacture of Design Mix Concrete for structural use in RCC.

9.2.3.2 Till the time, BIS makes it mandatory to print the %age of flyash on each bag of cement, the certificate from the PPC manufacturer indicating the same shall be insisted upon before allowing use of such cements in works.

9.2.3.3 While using PPC for structural concrete work, no further admixing of fly ash shall be permitted.

10.0 PARTICULAR SPECIFICATIONS FOR AAC BLOCK MASONRY:

10.1 The AAC Blocks shall be procured from approved manufacturers.

10.2 The blocks shall be stored at site in stacks on a level dry surface.

10.3 The mortar used for joining the blocks shall be mixed in the proportion 1:4 (1 Cement : 4 coarse sand) by volume.

10.4 The thickness of joints in the masonry shall not exceed 10 mm and shall be of uniform thickness.

10.5 Maximum height of wall built on any day shall not be more than 1.2 meters (i.e. 6 layers).

10.6 The joints in the masonry shall be recessed and no flush pointing shall be done.

10.7 A slip membrane with PVC sheet shall be introduced as per the recommendation of blocks manufacturer before laying the first course on the plinth beam.

10.8 The blocks shall not be soaked in water and instead they shall be dipped in water and taken out immediately to have only moist surface.

10.9 The vertical joints of the masonry shall be broken to have a minimum overlap of 100 mm.

10.10 Bed joint 2 Nos 6mm dia reinforcement bars may be placed in the joints after every 3rd course in two successive layers as per the recommendation of the manufacturers to have good lateral stability.

10.11 It shall be ensured that the lintels are rest at either end of window opening only on full block and not on half or part blocks reinforcement shall be placed in the sill course of window openings in two successive horizontal joints and extend the same at least to 600 mm on either side of the jamb surface.

10.12 At a RCC column interface an MS anchor ("L" shape) may be placed and fixed with screws at every 4th course so as to anchor the wall with RCC column for better lateral stability. The anchor shall be got approved from Engineer-in-Charge.

10.13 Curing of the masonry shall be done only by spraying water and no flooding shall be done by water jets / buckets.

10.14 The chases in the wall surface for Civil conduits shall be done only by means of electrically operated saw to cut two parallel lines and the portion between the cuts shall be chiseled carefully. The depth of vertical chases should be limited to 1/3 rd of wall thickness and horizontal chases should not be more than 1/6th of wall thickness. The chases have to be properly packed with cement mortar 1:4 (1 cement : 4 sand) between pipes and chases.

10.15 The blocks shall be cut using a carpenter saw to have half blocks or any other suitable size block to close the masonry course or to break the vertical joint from the bottom course. Hammer or a masons trowel shall not be used to cut the blocks.

10.16 GI wire mesh shall be fixed on all column wall and beams- wall junctions before taking up the plaster work.

10.17 The rates of the item include all the elements described above.

11.0 EQUIPMENTS AND PLANTS (Refer Clause 18 of Schedule 'F')

11.1 The contractor has to deploy necessary tools & plants in required numbers to ensure smooth & timely execution of work, at his own cost & risk as per the requirement of work at different stages. The decision of Engineer-in-Charge shall be final regarding use of particular T&P(s) at a particular time(s) & the contractor has to adhere to the same strictly. The following description & quantum of T&P is given for general guidance which is not

mandatory. However, the successful contractor shall give a list of tools and plants which he proposes to deploy to ensure smooth and timely execution as per different milestone fixed and timely completion of work while submitting the programme and progress chart.

I.	Fully Automatic Batching plant (15 cum)	1 no.
II.	Concrete pump	1 No.
III	Steel centering and shuttering.	2000 Sq.Mtr.
IV.	Excavator Cum Loader.	1 No.
V.	Builders Hoist.	1 Nos.
VI.	Concrete mixer with hopper.	3 Nos.
VII.	Plate Vibrator.	2 No.
VIII.	Needle Vibrator.	4 Nos.
IX.	Bar Bending Machine.	1 No.
X.	Bar Cutting Machine.	1 No.
XI.	Compressor 5 cmm.	1 No.
XII.	Earth compactor 2 T	1 No.
XIII.	Floor grinding machine	3 No.
XIV.	Welding machine	2 No.
XV.	DG Set(63 KVA)	1 No.
XVI.	Grinder, Drilling machine etc.	3 Nos.
XVI	Water Pump	3 Nos.
XVII	Chase cutter	2 Nos.

11.2 To achieve the progress of work as per programme, the contractor must bring at site the required shuttering materials required for cement concrete and RCC work etc. within 30 days from the date of start of work. All other equipments shall be brought, installed and commissioned at site of work at least one week before their actual planned use at site. Work shop facilities for fabrication/addition and alterations, and other allied works shall be arranged by the contractor at his own cost.

11.3 The list of equipment/T&P/machinery as per para 11.1 is for general guidance. In addition to these, machinery / equipment as required, shall be arranged by the contractor, in case the requirement at any stage exceeds as per the programme finalized, at his own cost and nothing extra whatsoever on this account shall be paid. This include equipment for arrangement of concrete from RMC producing plants also.

11.4 All the equipment, T&P and machinery shall be kept in good condition.

12.0 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.

13.0 LIST OF EQUIPMENT FOR SITE LABORATORY TO BE MADE AVAILABLE BY THE CONTRACTOR AT HIS OWN COST (Refer Clause 10 A of Schedule 'F')

Laboratory testing instruments.

(1) Balances
   i. 7 Kg. to 10 Kg. capacity, semi-self indicating type – accuracy 10 gm.-1 No.
   ii. 500 gm. Capacity, semi-self indicating type – accuracy 1 gm.- 1 No.
   iii. Pan balance – 5 Kg. capacity – accuracy 10 gms.-1 No.

(2) Ovens–electrically operated, thermostatically controlled upto 110^0 C–sensitivity 1^0 C. – 1 No.

(3) Sieves : as per IS 460 – 1962.
   i. I.S. sieves – 450 mm internal dia, of sizes 100mm, 80 mm, 63 mm, 50mm, 40 mm, 25mm, 20 mm, 12.5 mm, 10 mm, 6.3mm, 4.75 mm, 2.36mm complete with lid and pan. – 1 Set
   ii. I.S. sieves - 200 mm internal dia (brass frame) consisting of 2.36 mm, 1.18 mm, 600 microns, 425 microns, 300 microns, 212 microns, 150 microns, 90 microns, 75 microns with lid and pan. – 1 Set

(4) Sieve shaker capable of 200 mm and 300 mm dia sieves, manually operated with timing switch assembly - 1 No.

(5) Equipment for slump test–slump cone, steel plate, tamping rod, steel scale, scoop-2sets

(6) Dial gauges, 25 mm travel – 0.01 mm / division least count – 2 Nos.

(7) 100 tones compression testing machine, Civil cum manually operated. – 1 No.

(8) Graduated measuring cylinders 200 ml capacity – 6 Nos.

(9) Enamel trays (for efflorescence test for bricks).
   i. 300 mm X 250 mm X 40 mm – 2 Nos. } 10 Set
   ii. Circular plates of 2850 mm dia – 4 Nos. }

B. **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.

C.

(1) Steel tapes – 3 m.

(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 (for CivilDivisions)
(17) Meggar (for CivilDivisions)
(18) Total station

14.0 SPECIFICATIONS FOR FLY ASH BRICKS - All fly ash bricks as brought to the site shall conform to the strength & durability parameters as prescribed in the tender and CPWD specifications.

15.0 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.

16.0 <u>TESTING OF MATERIALS</u>.

16.1 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 equipments 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.

16.2 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.

16.3 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.

17.0 CONDITIONS OF CONTRACT SPECIFIC TO GREEN BUILDING PRACTICES

The contractor shall strictly adhere to the following conditions as part of his contractual obligations:

17.1 SITE

17.1.1 The contractor shall ensure that adequate measures are taken for the prevention of erosion of the top soil during the construction .The contractor shall prepare and implement the Erosion and Sedimentation Control Plan (ESCP) provided to him after approval by the Engineer- in- Charge as part of the larger Construction Management Plan (CMP). The contractor shall obtain the Erosion and Sedimentation Control Plan (ESCP) Guidelines if required from the Engineer in Charge and then prepare "working plan" for the following month's activities as a CAD drawing showing the construction management, staging & ESCP. At no time soil should be allowed to erode away from the site and sediments should be trapped where necessary.

The contractor shall ensure that all the top soil excavated during construction works is neatly stacked and is not mixed with other excavated earth. The contractor shall take the clearance of the Engineer in Charge before any excavation. Top soil should be stripped to a depth of 20 cm (centimeters) from the areas to be disturbed, for example proposed area for buildings, roads, paved areas, external services and area required for construction activities etc. It shall be stockpiled to a maximum height of 40 cm in designated areas, covered or stabilized with temporary seeding for erosion prevention and shall be reapplied to site during plantation of the proposed vegetation or as directed by the engineer in charge. Top soil shall be separated from subsoil, debris and stones larger than 50 mm (millimeter) diameter. The stored top soil may be used as finished grade for planting areas.

17.1.2 The Contractor should follow the construction plan as proposed by the Architect / Engineer in Charge to minimize the site disturbance such as soil pollution due to spilling. If required use of staging and spill prevention and control plan to restrict the Spilling of the contaminating material on site needs to be resorted. Protection of top soil from erosion by collection storage and reapplication of top soil, constructing sediment basin, contour trenching, mulching etc., may also be directed by the engineer in charge.

17.1.3 No excavated earth shall be removed from the campus unless suggested otherwise by Engineer in Charge. All subsoil shall be reused in backfilling/landscape, etc as per the instructions of the Engineer in Charge. The surplus excavated earth shall be disposed of by the contractor as per the direction of the Engineer- in- Charge at his own cost for reuse. A certificate of reuse as required by the Engineer-in-Charge shall be submitted by the contractor.

17.1.4 The contractor shall not change the natural gradient of the ground unless specifically instructed by the Engineer-in-Charge. This shall cover all natural features like water bodies, drainage gullies, slopes, mounds, depressions, etc. Existing drainage patterns through or into any preservation area shall not be modified unless specifically directed by the Engineer-in-Charge.

17.1.5 The contractor shall not carry out any work which results in the blockage of natural drainage.

17.1.6 The contractor shall ensure that existing grades of soil shall be maintained around existing vegetation and lowering or raising the levels around the vegetation is not allowed unless specifically directed by the Engineer-in-Charge.

17.1.7 Contractor shall reduce pollution and land development impacts from automobiles use during construction.

17.1.8 Overloading of trucks is unlawful and creates the erosion and sedimentation problems, especially when loose materials like stone dust, excavated earth, sand etc. are moved. Proper covering shall be used by the contractor. Also, no overloading shall be permitted.

17.2 CONSTRUCTION PHASE AND WORKER FACILITIES

17.2.1 The contractor shall specify and limit construction activity in pre-planned/designated areas and shall start construction work after securing the approval for the same from the Engineer in Charge. This shall include areas of construction, storage of materials, and material and personnel movement.

17.2.2 Preserve and Protect Landscape during Construction

a The contractor shall ensure that no trees, existing or otherwise, shall be harmed and damage to roots. These shall be prevented during trenching, placing backfill, driving or parking heavy equipment, dumping of trash and protected from oil, paint, and other materials detrimental to plant health. These activities shall be restricted to the areas outside of the canopy of the tree, or, from a safe distance from the tree/plant by means of barricading. Trees will not be used for support; their trunks shall not be damaged by cutting and carving or by nailing posters, advertisements or other material. Lighting of fires or carrying out heat or gas emitting construction activity within the ground, covered by canopy of the tree is not at all permitted.

b The contractor shall take steps to protect trees or saplings if any identified for preservation within the construction site using tree guards of approved specification.

c Contractor should limit all construction activity within the specified area as per the Construction Management Plan (CMP) approved by Engineer in Charge.

d The contractor shall avoid cut and fill in the root zones, through delineating and fencing the drip line (the spread limit of a canopy projected on the ground) of all the trees or group of trees. The zones of movement of heavy equipment, parking, or excessive foot traffic shall be separated from the fenced plant protection zones.

e The contractor shall ensure that maintenance activities during construction period shall be performed as needed to ensure that the vegetation remains healthy.

17.2.3 Contractor shall be required to develop and implement a waste management plan, quantifying material diversion goals. He shall establish goals for diversion from disposal in landfills and incinerators, if required, and adopt a construction waste management plan to achieve these goals. A project wide policy of "Nothing leaves the Site" shall be followed. The Contractor's ingenuity is especially called towards meeting this prerequisite/ credit (as per IGBC LEED India, New Construction v1.0 & GRIHA , MNRE) and may consider recycling cardboard, metal, brick, acoustical tile, concrete, plastic, clean wood, glass, gypsum wallboard, carpet and insulation, designating a specific area(s) on the construction site for segregated or commingled collection of recyclable material, and track recycling efforts throughout the construction process, identifying construction haulers and recyclers to handle the designated materials at his cost. The diversion may include donation of materials to charitable organizations and salvage of materials on-site.

17.2.4 Contractor shall collect all construction waste generated on site. He may consider at segregating wastes based on their utility and examine means of sending such waste to

manufacturing units which use them as raw material or other site which require it for specific purpose. Typical construction debris could be broken bricks, steel bars, broken tiles, spilled concrete and mortar etc.

17.2.5 The contractor shall provide potable water and other amenities for all workers as per the contract.

17.2.6 The contractor shall provide the minimum level of sanitation and safety facilities for the workers at site as described in CPWD General Conditions of contract. The contractor shall ensure cleanliness of workplace with regard to the disposal of waste and effluent; provide clean drinking water and latrines and urinals as per applicable provisions. Adequate toilet facilities shall be provided for the workmen within easy access of their place of work. The total no. to be provided shall not be less than 1per 30 employees in any one shift. Toilet facilities shall be provided from the start of building operations, connection to a sewer shall be made as soon as practicable. Every toilet shall be so constructed that the occupant is sheltered from view and protected from the weather and falling objects. Toilet facilities shall be maintained in a sanitary condition. A sufficient quantity of disinfectant shall be provided and natural or artificial illumination shall also be provided.

17.2.7 The contractor shall ensure that air pollution due to dust/generators is kept to a minimum, preventing any adverse effects on the workers and other people in and around the site. The contractor shall ensure proper screening, covering stockpiles, covering brick and loads of dusty materials, wheel-washing facility, gravel pit, and water spraying. Contractor shall also ensure the following activities to prevent air pollution during construction:

- Clear vegetation only from areas where work will start right away
- Vegetate / mulch areas where vehicles do not ply.
- Apply gravel / landscaping rock to the areas where mulching / paving is impractical
- Identify roads on-site if applicable that would be used for vehicular traffic. Upgrade vehicular roads (if these are unpaved) by increasing the surface strength by improving particle size, shape and mineral types that make up the surface & base and add surface gravel to reduce source of dust emission to limit amount of fine particles (smaller than 0.075mm) to 10 – 20%
- Water spray, through a simple hose for small projects, to keep dust under control. Fine mists should be used to control fine particulate. However, this should be done with care so as not to waste water. Heavy watering can also create mud, which when tracked onto paved public roadways, must be promptly removed. Also, there must be an adequate supply of clean water nearby to ensure that spray nozzles don't get plugged.
- Water spraying shall be done on:

17.2.7.1 Any dusty materials before transferring, loading and unloading

17.2.7.2 Area where demolition work is being carried out

17.2.7.3 Any un-paved main haul road

17.2.7.4 Areas where excavation or earth moving activities are to be carried out

- The contractor shall ensure that the speed of vehicles within the site is limited to 10 km/hr.
- All material storages should be adequately covered and contained so that they are not exposed to situations where winds on site could lead to dust / particulate emissions.
- Spills of dirt or dusty materials will be cleaned up promptly so the spilled material does not

become a source of fugitive dust and also to prevent of seepage of pollutant laden water into the ground aquifers. When cleaning up the spill, ensure that the clean-up process does not generate additional dust. Same as or similarly, spilled concrete slurries or liquid wastes should be contained / cleaned up immediately before they can infiltrate into the soil / ground or runoff in nearby areas

- Provide hoardings of not less than 3m high along the site boundary, next to a road or other public area at his cost.
- Provide dust screens, sheeting or netting to scaffold along the perimeter of the building at his cost
- Cover stockpiles of dusty material with impervious sheeting at his cost.
- Cover dusty load on vehicles by impervious sheeting before they leave the site at his cost.

17.2.8 Contractor shall be required to provide an easily accessible area that serves the entire building and is dedicated to the separation, collection and storage of materials for recycling including (at a minimum) paper, corrugated cardboard, glass, plastics, and metals. He shall coordinate the size and functionality of the recycling areas with the anticipated collections services for glass, plastic, office paper, newspaper, cardboard, and organic wastes to maximize the effectiveness of the dedicated areas. Consider employing cardboard balers, aluminum can crushers, recycling chutes, and collection bins at individual workstations to further enhance the recycling program

17.2.9 The contractor shall ensure that no construction leachate (e.g. cement slurry etc.), is allowed to percolate into the ground. Adequate precautions will be taken to safeguard against this including reduction of wasteful curing processes, collection, basic filtering and reuse. The contractor shall follow requisite measures for collecting drainage water run-off from construction areas and material storage sites and diverting water flow away from such polluted areas. Temporary drainage channels, perimeter dike/swale, etc. shall be constructed to carry the pollutant-laden water directly to the treatment device or facility (municipal sewer line).

17.2.10 Staging (dividing a construction area into two or more areas to minimize the area of soil that will be exposed at any given time) should be done to separate undisturbed land from land disturbed by construction activity and material storage.

17.2.11 The contractor shall comply with the safety procedures, norms and guidelines (as applicable) as outlined in the document Part 7 Constructional practices and safety, 2005, National Building code of India, Bureau of Indian Standards. A copy of all pertinent regulations and notices concerning accidents, injury and first-aid shall be prominently exhibited at the work site. Depending upon the scope & nature of work, a person qualified in first-aid shall be available at work site to render and direct first-aid to causalities. A telephone may be provided to first-aid assistant with telephone numbers of the hospitals displayed. Complete reports of all accidents and action taken thereon shall be forwarded to the competent authorities.

17.2.12 The contractor shall ensure the following activities for construction workers safety, among other measures at his cost.

- Guarding all parts of dangerous machinery.
- Precautionary signs for working on machinery
- Maintaining hoists and lifts, lifting machines, chains, ropes, and other lifting tackles in good condition.
- Durable and reusable formwork systems to replace timber formwork and ensure that formwork where used is properly maintained.
- Ensuring that walking surfaces or boards at height are of sound construction and are

provided with safety rails or belts.

- Provide protective equipment; helmets etc.
- Provide measures to prevent fires. Fire extinguishers and buckets of sand to be provided in the fire-prone area and elsewhere.
- Provide sufficient and suitable light for working during night time.

17.2.13 The storage of material shall be as per standard good practices as specified in Part 7, Section 2 - Storage, Stacking and Handling practices, NBC 2005 and shall be to the satisfaction of the Engineer in Charge to ensure minimum wastage and to prevent any misuse, damage, inconvenience or accident. Watch and ward of the Contractor's materials shall be his own responsibility. There should be a proper planning of the layout for stacking and storage of different materials, components and equipments with proper access and proper maneuverability of the vehicles carrying the materials. While planning the layout, the requirements of various materials, components and equipments at different stages of construction shall be considered.

17.2.14 The contractor shall provide for adequate number of garbage bins around the construction site and the workers facilities and will be responsible for the proper utilisation of these bins for any solid waste generated during the construction. The contractor shall ensure that the site and the workers facilities are kept litter free. Separate bins should be provided for plastic, glass, metal, biological and paper waste and labelled in both Hindi and English with suitable symbols.

17.2.15 The contractor shall prepare and submit 'Spill prevention and control plans' before the start of construction, clearly stating measures to stop the source of the spill, to contain the spill, to dispose the contaminated material and hazardous wastes, and stating designation of personnel trained to prevent and control spills. Hazardous wastes include pesticides, paints, cleaners, and petroleum products.

17.2.15.1 Contractor shall collect & submit the relevant material certificates for materials if directed by the Engineer in charge with high recycled (both post-industrial and post-consumer) content, including materials like RMC mix with fly-ash, glass with recycled content, calcium silicate boards etc.

17.2.16 Contractor shall collect the relevant material certificates for rapidly renewable materials such as bamboo, wool, cotton insulation, agrifiber, linoleum, wheat board, strawboard and cork etc.

17.2.17 Where possible, the contractor shall select materials / vendors, harvested and manufactured regionally, within a 800-km radius of the project site.

17.2.18 Contractor shall adopt an IAQ (Indoor Air Quality) management plan to protect the HVAC system during construction, control pollutant sources, and interrupt pathways for contamination. He shall sequence installation of materials to avoid contamination of absorptive materials such as insulation, carpeting, ceiling tile, and gypsum wallboard. He shall also protect stored on-site or installed absorptive materials from moisture damage.

17.2.19 The contractor shall ensure that a flush out of all internal spaces is conducted prior to handover. his shall comprise an opening of all doors and windows for 14 days to vent out any toxic fumes due to paints, varnishes, polishes, etc.

17.2.20 Contractor shall make efforts to reduce the quantity of indoor air contaminants that are odorous or potentially irritating harmful to the comfort and well-being of installer and building occupants. Contractor shall ensure that the VOC (Volatile Organic Compounds) content of paints, coatings and primers used must not exceed the VOC content limits mentioned

below in case items of such paints are/is available in schedule of quantities.

Paints
Non-flat - 150 g/L Flat (Mat) - 50, g/L Anti corrosive/ anti rust - 250 g/L

Coatings / Clear wood finishes
Varnish - 350 g/L Lacquer - 550 g/L Floor coatings - 100 g/L Stains - 250 g/L
Sealers
Waterproofing sealer - 250 g/L Sanding sealer - 275 g/L Other sealers - 200 g/L

17.2.21 The VOC (Volatile Organic Compounds) content of adhesives and sealants used if prescribed in the schedule of quantities must be less than VOC content limits mentioned: **Architectural Applications** VOC Limit (g/l less water) Indoor Carpet adhesives - 50 g/L, Carpet Pad Adhesives - 50 g/L, Wood Flooring Adhesive - 100 g/L, Rubber Floor Adhesives - 60 g/L, Sub Floor Adhesives – 50 g/L, Ceramic Tile Adhesives - 65 g/L, VCT and Asphalt Tile adhesives - 50 g/L, Dry Wall and Panel Adhesives - 50 g/L, Structural Glazing Adhesives - 100 g/L, Multipurpose Construction Adhesives – 70 g/L, Substrate Specific Application VOC Limit (g/l less water), Metal to Metal - 30 g/L, Plastic Foams - 50 g/L, Porous material (except wood) - 50 g/L, Wood - 30 g/L, Fiber Glass – 80 g/L

17.2.22 Wherever required, Contractor shall meet and carry out documentation of all activities on site, supplementation of information, and submittals in accordance with IGBC LEED India New Construction v1.0 or GRIHA program standards and guidelines. Towards meeting the aforementioned building environmental rating standard(s) expert assistance shall be provided to him up on request.

17.2.23 Water Use during Construction Contractor should spray curing water on concrete structure and shall not allow free flow of water. Concrete structures should be kept covered with thick cloth / gunny bags and water should be sprayed on them. Contractor shall do water ponding on all sunken slabs using cement and sand mortar.

17.2.24 The Contractor shall remove from site all rubbish and debris generated by the Works and keep Works clean and tidy throughout the Contract Period. All the serviceable and non-serviceable (malba) material shall be segregated and stored separately. The malba obtained during construction shall be collected in well formed heaps at properly selected places, keeping in a view safe condition for workmen in the area. Materials which are likely to cause dust nuisance or undue environmental pollution in any other way, shall be removed from the site at the earliest and till then they shall be suitable covered. Glass & steel should be dumped or buried separately to prevent injury. The work of removal of debris should be carried out during day. In case of poor visibility artificial light may be provided.

17.2.25 The contractor shall provide O & M Manuals wherever applicable.

17.2.26 The contractor shall make himself conversant with the Site Waste Management Program Manual and actively contribute to its compilation by estimating the nature and volume of waste generated by the process/installation in question.

17.2.27 MATERIALS & FIXTURES FOR THE PROJECT

a) Contractor will produce wherever feasible certificate regarding distance of the source of the relevant material.

b) Unless otherwise stated cement used at site for reinforced concrete, precast members, mortar, plaster, building blocks, etc shall be PPC (Portland Puzzolana Cement). The PPC must meet the requirements of IS 1489 (Part I) as regards to fly ash content in cement The contractor shall obtain from the PPC manufacturer the certificate regarding fly ash content in the PPC in each batch of consignment.

c) The contractor has to comply as per MoEF issued notification 8.0.763(E) dated 14th Sept.1999 containing directive for greater fly ash utilization. Every construction agency engaged in the construction of buildings within a radius of 50 km radius of a Thermal Power Plant, have to use of 100% fly ash based bricks/blocks in their construction.

d) The contractor shall ensure that all paints, polishes, adhesives and sealants used both internally and externally, on any surface, shall be Low VOC products. The contractor shall get prior approval from the Engineer in Charge before the application of any such material.

e) All plumbing and sanitary fixtures installed shall be as per the prescription of the Engineer in Charge and shall adhere to the minimum LPM (litres per minute) and LPF (litres per flush) mentioned. The contractor shall employ 100% zero ODP (ozone depletion potential) insulation; HCFC (hydro-chlorofluorocarbon)/ and CFC (chlorofluorocarbon) free HVAC and refrigeration equipments and / halon-free fire suppression and fire extinguishing systems.

f) The contractor shall ensure that all composite wood products/agro-fibre products used for cabinet work, etc do not contain any added urea formaldehyde resin.

17.2.28 RESOURCES CONSUMED DURING CONSTRUCTION

a. The contractor shall ensure that the water and electricity is not wasted during construction. The Engineer in Charge can bring to the attention any such wastage and the contractor will have to ensure that such bad practices are corrected.

b. The contractor shall install necessary meters and measuring devices to record the consumption of water, electricity and diesel on a monthly basis for the entire tenure of the project.

c. The contractor shall ensure that all run-off water from the site, during construction is collected and reused to the maximum.

d. The contractor shall use treated recycled water of appropriate quality standards for construction, if available.

e. No lights shall be turned on during the period between 6:00 AM to 6:00 PM, without the permission of the Engineer in Charge.

17.2.29 CONSTRUCTION WASTE

Contractor shall ensure that wastage of construction material is within 3%.

a) All construction debris generated during construction shall be carefully segregated and stored in a demarcated waste yard. Clear, identifiable areas shall be provided for each waste type and measures employed to segregate the waste on site into inert, chemical, or hazardous wastes.

b) All construction debris shall be used for road preparation, back filling, etc, used if described in the schedule of quantities and as per the instructions of the Engineer in Charge, with necessary activities of sorting, crushing, etc.

c) No construction debris shall be taken away from the site, without the prior approval of the Engineer in Charge.

d) The contractor shall recycle the unused chemical/hazardous wastes such as oil, paint, batteries, and asbestos.

e) If and when construction debris is taken out of the site, after prior permissions from the Engineer in Charge, then the contractor shall ensure the safe disposal of all wastes and will only dispose of any such construction waste in approved dumping sites.

17.2.30 Documentation

a) The contractor shall, during the entire tenure of the construction phase, submit the following records to the Engineer in Charge on a monthly basis:

i) Water consumption in litres

ii) Electricity consumption in 'kwh' units

iii) Diesel consumption in litres

iv) Quantum of waste (volumetric/weight basis) generated at site and the segregated waste types divided into inert, chemical and hazardous wastes.

v) Digital photo documentation to demonstrate compliance of safety guidelines as specified here and in the Appendix on Safety Conditions.

b) The contractor shall, during the entire tenure of the construction phase, submit the following records to the Engineer in Charge on a fortnightly basis:

i) Quantities of material brought into the site, including the material issued to the contractor by the Engineer in charge.

ii) Quantities of construction debris (if at all) taken out of the site

iii) Digital photographs of the works at site, the workers facilities, the waste and other material storage yards, pre-fabrication and block making works, etc as guided by the Engineer in Charge.

c) The contractor shall submit a document after construction of the buildings, a brief description along with photographic records to show that other areas have not been disturbed during construction. The document should also include brief explanation and photographic records to show erosion and sedimentation control measures adopted. (Document CAD drawing showing site plan details of existing vegetation, existing buildings, existing slopes and site drainage pattern, staging and spill prevention measures, erosion and sedimentation control measures and measures adopted for top soil preservation during construction.

d) The contractor shall submit to the Engineer in Charge after construction of the buildings, a detailed as built quantification of the following:

i. Total materials used,

ii. Total top soil stacked and total reused

iii. Total earth excavated

iv. Total waste generated,

v. Total waste reused,

vi. Total water used,

vii. Total electricity, and

viii. Total diesel consumed.

e) The contractor shall submit to the Engineer in Charge, before the start of construction, a site plan along with a narrative to demarcate areas on site from which top soil has to be gathered, designate area where it will be stored, measures adopted for top soil preservation and indicate areas where it will be reapplied after construction is complete.

f) The contractor shall submit to the Engineer in Charge, a detailed narrative (not more than 250 words) on provision for safe drinking water and sanitation facility for construction workers and site personnel.

g) Provide supporting document from the manufacturer of the cement specifying the fly-ash content in PPC used in reinforced concrete.

h) Provide supporting document from the manufacturer of the pre-cast building blocks specifying the fly ash content of the blocks used in an infill wall system.

i) The contractor shall, at the end of construction of the buildings, submit to the Engineer in Charge, submit following information, for all material brought to site for construction purposes, including manufacturer's certifications, verifying information, and test data, where Specifications sections require data relating to environmental issues including but not limited to:

i) Source of products: Supplier details and location of the supplier.

ii) Project Recyclability: Submit information to assist Owner and Contractor in recycling materials involved in shipping, handling, and delivery, and for temporary materials necessary for installation of products.

iii) Recycled Content: Submit information regarding product post industrial recycled and post consumer recycled content. Use the "Recycled Content Certification Form", to be provided by the Commissioning Authority appointed for the Project.

iv) Product Recyclability: Submit information regarding product and product's component's recyclability including potential sources accepting recyclable materials where ever applicable.

j) Provide final certification of well-managed forest of origin to provide final documentation of certified sustainably harvested status: Acceptable wood "certified sustainably harvested" certifications shall include:

a) Wood suppliers' certificate issued by one of the Forest Stewardship Council-accredited certifying agencies;

b) Suppliers' invoice detailing the quantities of certified wood products for project;

c) Letter from one of a certifying agency corroborating that the products on the wood supplier's invoice originate from certified well-managed forests.

i) Clean tech: Provide pollution clearance certificates from all manufacturers of materials

ii) **I**ndoor Air quality and Environmental Issues: Submit emission test data, sourced from the manufacturers, produced by acceptable testing laboratory listed in Quality Assurance Article for materials as required in each specific Specification section.

a) Certifications from manufacturers of Low VOC paints, adhesives, sealant and polishes used at this particular project site.

b) Certification from manufacturers of composite wood products/agro fibre products on the absence of added urea formaldehyde resin in the products supplied to them to this particular site.

c) Submit environmental and pollution clearance certificates for all diesel generators installed as part of this project.

Provide total support to Engineer in Charge and Green Building Consultants appointed by the Engineer- in- Charge in completing all Green Building Rating related formalities, including signing of forms, providing signed letters in the contractor's letterhead whenever required.

17.2.31 EQUIPMENT

a) To ensure energy efficiency during and post construction all pumps, motors and engines used during construction or installed, shall be subject to approval and as per the specifications of the Engineer in Charge.

b) All lighting installed by the contractor around the site and at the labour quarters during construction shall be CFL bulbs of the appropriate illumination levels. This condition is a must, unless specifically prescribed.
The contractor is expected to go through all other conditions of the LEED & GRIHA rating stipulations.

Failure to adhere to any of the above mentioned items, without approval of the Engineer in Charge, shall be deemed as a violation of contract and the contractor shall be held liable for penalty as per terms of the agreement.

18.1 Formwork for exposed concrete surfaces:-

18.1.1 Where it is specifically shown on the drawings to have original fair face finish of concrete surface without any rendering of plastering, formwork shall be carried out by using plywood on steel plates of approved quality.

18.1.2 The forms shall be constructed so as to produce a uniform and consistent texture and pattern on the face of the concrete. The formwork shall be placed so that all horizontals are constructed of lumber and are not paneled and the formwork joints shall be staggered.

18.1.3 To achieve a finish which shall be free of board marks, the formwork shall be faced with plywood or equivalent material in large sheets. The sheets shall be arranged in an approved pattern. Whenever possible, joints between sheets shall be arranged to coincide with architectural feature, sills, window heads or change in direction of surface. All joints between panels shall be vertical or horizontal unless otherwise directed. Suitable joints shall be approved between sheets. The joints shall be arranged and fitted so that no blemish or mark is imparted to the finished surfaces.

18.1.4 Forms for exposed concrete surfaces shall be constructed with grade strips (the underside of which indicate top of pour) at horizontal constructions joints, unless the use of groove strips is specified on the drawings. The reset forms shall be tightened against the concrete so that the forms will not be spread and permit abrupt irregularities or loss of mortar. Supplementary form ties shall be used as necessary to hold the reset forms tight against the concrete.

18.1.5 For fair faced concrete, the position of through bolts will be restricted and generally as indicated on the drawings.

18.1.6 Plywood and steel plates used in the formwork for obtaining exposed surfaces shall be got approved from Engineer-in-Charge on each use. However no forms will be allowed for reuse if it is doubtful to produce desired texture of exposed concrete.

18.1.7 Cement of only approved shade shall be used preferably of single lot to achieve integrity of texture.

18.2 Class of Surface Finish:-

18.2.1 For Beams & Slabs :

The finish shall be uniform, dense and smooth. no grout, no grain pattern, no crazing and no major blemishes shall be permitted. Abrupt irregularities not exceeding 3mm and gradual irregularities less than 5mm in 2m length only shall be permitted.

18.2.2 For Columns/Wall/Fins :

The finish shall be uniform and smooth leveling the surface of the compacted concrete shall be done with a screed board with power floating the surface and over that steel trowelling the surface under firm pressure characteristics of finish shall be brush marks < 3mm gradual irregularities less than 10mm in 2m.

18.3 Tolerance in Finished Concrete:-

The formwork shall be so made as to produce a finished concrete true to shape, lines, level, plumb and dimensions as shown in the drawings subject to the following tolerance unless otherwise specified in this specification or drawings.

18.4 WALL/COLUMN/FINS:

17.4.1 Variation from the plumb	± 6mm	Upto 3m height
18.4.2 Variation from the plumb of conspicuous liner	± 6mm	Upto 6m height
18.4.3 Variation in the size of wall openings	(+)15mm (-) 6mm	
18.4.4 Variation in parapet wall thickness		
(a) Upto 30cm thickness	± 6mm	

18.5 SLAB, BEAM & GIRDER FORMS:

18.5.1 Variation from the level or from the specified grid for beam soffit before removal of shores,

(a) In any 3m	± 6mm
(b) In any 6m	± 10mm

All the tolerances mentioned above shall apply to concrete dimensions only, and not to positioning of vertical steel or dowels. The tolerances given above are specified for local aberration in the finished concrete surface and should not be taken as tolerance for the entire structure taken as whole for the setting and alignment of formwork. Any error, within the above tolerance limits, or any other if noticed in any of the structure after part or portion stripping of forms, shall be corrected in the subsequent work to bring back the structure to its true line, level and alignment.

19.0 FIXING OF SCI/CI PIPE

The SCI/CI pipes and G.I. pipes, wherever necessary, shall be fixed to RCC columns, beams etc. with rawl plugs, or appropriate fasteners as approved by Engineer-in-Charge, and nothing extra shall be payable on this account. GI pipes shall be, wherever made to pass through wall / concrete, then it shall be done using protective sleeves alround the pipes to protect it from damage and nothing extra shall be payable on this account.

20.0 The Contractor shall carry out all the instructions of the Engineer Incharge .

Annexure - I

(SPECIMEN)

(Ref. para 3.7 of Particular Specifications and Special conditions)

GUARANTEE TO BE EXECUTED BY CONTRACTORS FOR REMOVAL OF DEFECT 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 ten 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 ten 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 water 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 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. …….
2. …….

SCOPE OF WORK (CIVIL+ELECTRICAL) & ADDITIONAL CONDITIONS OF CONTRACT

The Contractor will be responsible for Annual Repair and Maintenance of Civil/Horticulture/Electrical /plumbing of Hospital Buildings, Medical College Building, Nursing College, Ayush PMR Building, Trauma Building, Service Buildings, Hostels and other area as per instruction of engineer in charge, All India Institute of Medical Sciences (AIIMS) Raipur.

Maintenance Services of following:

- Building Maintenance Services of Civil and Electrical works.
- Common Area Maintenance Services (including parking area, Basement area, ramp area, common toilets, roads, UG tanks area etc. or as per instruction of Engineer In charge.) of Civil and Electrical works.
- Sanitary fixtures and Plumbing work.
- Chamber/Gully trap/Sewer line/Septic tank cleaning works.
- Water Tank Cleaning works.
- Maintenance of Landscaping and Horticulture.
- Maintenance of External/Internal lighting like, stairs case wiring, High Mast, Street Light & Gate Light of the Hospital and Staff Quarters.
- Repairing/Maintenance of submersible Pump/Mono block Pump.
- The agency shall maintain the all log book of electromechanical equipments like Mono block Pump, Floor Panel reading, dust cleaning of Distribution Board, LT & Floor Panel etc. and should be checked & verified by AIIMS Engineer.
- Whenever, Senior Electrical/Civil Engineer is required at site the agency will provide.
- Uniform, Name Plates and identity cards have to be provided to each and every Staff by the contractor.
- The Agency shall have to display on sign board, the name of work, office name and also maintaining agency along with Facility Manager/Engineer/Supervisor's name to be contacted with Telephone Nos.
- The agency shall be responsible to depute their supervisor on working site to meet MS/DDA/SE/EE/AE/Engineer/Care Taker etc.
- Items other then BOQ shall be executed by the contractor & payment shall be made as per DSR/AOR/Local market Rate as directed by the Engineer Incharge.

The following types of Works are included in the contract.

A. Day to Day Maintenance – It shall consist of the following operations: (Annexure-B Enclosed)

a. Receiving, recording, distributing & updating/downloading the day to day complaints at Service Centre.
b. Attending the daily complaints with required labour & material etc.
c. Monitoring of receipt, distribution, attending the complaints as required including keeping a record of the attended complaints
d. Other misc. operations as referred in schedule of quantity for day to day maintenance.
e. Cleaning of terrace tanks at six months interval.
f. Cleaning of sewer lines / man holes at one month interval or as per instruction by Engineer In charge.
g. Other works as per description of item of Bill of Quantities

B. **Special Repair Works:-** It shall consist of following repair of works.

a. Change of damaged doors/windows etc.
b. Replacement of damaged G.I./C.I./PVC/CPVC pipes etc.
c. Removing/Lowering 50MM/40MM dia G.I pipe from existing bore well i/c submersible pump & cable.
d. White washing, distempering etc., plastic emulsion painting, synthetic enamel painting etc.
e. Other misc. items as per bill of quantities.

(1) 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.
(2) The contractor shall make his own arrangements for obtaining electric connection for carrying out any maintenance activity.
(3) 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.
(4) On account of security consideration, there could be some restrictions on the working hours, movement of vehicles for transportation of materials. The contractor shall be bound of follow all such restrictions and adjust the programme for execution accordingly.
(5) The work shall be carried out in a manner complying in all respects with the requirements of relevant byelaws 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.
(6) All malba/rubbish/silt/waste/garbage etc. generated due to any operation from site and other open spaces whatsoever shall be disposed off on daily basis by the contractor to the specified authorized municipal dumping ground or as per instruction of Engineer Incharge. Nothing extra shall be paid on this account. In case of non-removal/disposal in the specified period, The work may be carried out at the risk & cost of the Contractor and it will be recovered from RA Bill/ Final Bill.
(7) No residential accommodation shall be provided to any of the staff engaged by the contractor. The contractor shall also not be allowed to erect any temporary set up for residence of his staff in the campus.
(8) A room for Maintenance office shall be provided by AIIMS, Raipur inside the campus. Furniture/stationary and all office setup will be arranged by the contractor.
(9) The workers and Supervisor(s) who are deployed by the Contractor they should be well dressed equipped with necessary tools & live mobile 24x7 to enable the Engineer/AIIMS representative to have easy and quick communication.

(10) The Contractor shall depute his representative(s) daily to the site of work his name & signature shall be attested by the contractor for record in the department. Nothing extra shall be paid to the contractor on this account and his quoted rates for various items under this contract will be inclusive of this obligation.

(11) All materials, T & P consumable and contingent articles required for the work shall be arranged by the contractor. Materials used shall be in order of preferences.

(i) As per list of approved makes of materials attached.

(ii) Under the Nomenclature of the item.

(iii) ISI marked.

(iv) CPWD specifications.

(v) Direction of the Engineer-in-Charge.

(12) The contractor shall make all safety arrangements 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 Employer 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 Employer/Engineer.

(13) Contractor shall be fully responsible for any damages caused to any property or allotted property by him or his labour in carrying out the work and the same shall be rectified by the contractor at his own cost.

(14) Chases, holes & drilling works etc. shall be done using only power operated tools.

(15) The contractor shall have to carry out the work other than day to day maintenance according to programme given by the Engineer or his representative. The contractor shall not carry out any work in any building without permission of Engineer. The contractor shall adhere to this programme failing which he shall be wholly responsible. No claim for idle labour on any account shall be entertained.

(16) The material as required shall be procured as per approved in bulk quantity (Not less than 25% of BOQ quantity or as decided by engineer incharge) and be kept in the joint custody.

(17) Contractor shall take daily instructions on site order book. Other than a register will be maintained at the Maintenance office for complain purpose. The Engineer or his representative will note down the work in units/areas to be attended to and the dates on which the work in these units/areas is to be started. An authorized representative of the contractor will, therefore, have to visit the Maintenance office daily and note down the instructions in the register.

(18) Complaints shall be made in the format (Annexure-B Enclosed).

(19) A complaint register (Annexure-C Enclosed) shall be maintained in the Maintenance Services Office of the contractor in which all complaints received shall be documented.

(20) The contractor will arrange & store all the materials at Enquiry office, required for attending day to day maintenance complaints for at least 15 Days or as decided by Engineer, throughout agreement period and defected/waste material removed from the site with the prior approval of Engineer in-charge.

(21) The contractor will maintain attendance records of the mali /head mali which can be checked by the Engineer or his officers.

(22) Horticulture:- All the potted plants/trees/Lawns will be maintained by the contractor. Any damage/loss of potted plants/trees/Lawns due to negligence shall be made good by contractor .

(23) Credit/damaged items shall be recorded and to be taken in the account of contractor/agency as per Engineer Incharge..

(24) The agency shall be responsible for replacement/repairing of items for the period as per the manufacturer's Guaranty / warranty conditions. No extra payment shall be made to the contractor during period of Guaranty / warranty.

(25) CORRECTION SLIPS TO GENERAL CONDITIONS OF CONTRACT FOR C.P.W.D. WORKS – 2014

Existing Provision	Modified Provision
Clause 25(ii) 5th Paragraph The arbitration shall be conducted in accordance with the provisions of the Arbitration and Conciliation Act 1996 (26 of 1996) or any statutory modification or reenactment thereof and the rules made there under the for the time being in force shall apply to the arbitration proceeding under this clause.	**Clause 25(ii) 5th Paragraph** The arbitration shall be conducted in accordance with the provisions of the Arbitration and Conciliation Act 1996 (26 of 1996) / The Jammu & Kashmir Arbitration and Conciliation Act 1997 (35 of 1997) (as the case may be) or any statutory modification or reenactment thereof and the rules made there under the for the time being in force shall apply to the arbitration proceeding under this clause.

LIST OF APPROVED MATERIALS (CIVIL)

Note : 1

a) 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.

b) The Contractor shall obtain prior approval from the Engineer-in-charge before placing order for any specific material/ Brand/ Make.

c) Whenever the specified brand of material is not available than, 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.

	MATERIALS:	**BRAND/MAKE**
1	Acid/Alkali Resistant Tile	Somany, Nitco, Kajaria, Bell Granamite
2	Acrylic Emulsion Paint	Asian , ICI Dulux, Berger, Nerolac
3	Admixtures & Epoxy	FOSROC, Aquomix , Choksey
4	Aluminum Composite Panel	Alpolic, Aluco Bond, Reynobond, Euro bond, Alstrong
5	Aluminum Extrusions	Hindalco, Indalco, Jindal
6	Aluminum Sections	Jindal, Hindalco, Indalco
7	Annealed Float Glass	Saint Gobain, Modi Guard
8	Centrifugally Cast Iron Pipe & Fittings	Neco,SKF, BIS, RIF or equivalent
9	Ceramic Tiles	Kajaria, Somany, Nitco, Bell Ceramic or equivalent
10	Chequrred tiles	Nitco, Super
11	CP Bottle Trap	Parryware, Hindware, Jaquar or equivalent.
12	CP Brass Bibcock, Pillarcock, Stopcock, Angle Valve, Concealed Stop Cock.	Marc, Jaquar, Grohe, Kohler or equivalent
13	CP fittings	Jaquar, Parryware, Grohe, Kohler, Somany.
14	CP Waste Coupling	Jaquar, Marc, Grohe, Kohler or equivalent
15	Curtain Carrier	Vista levlor or equivalent.
16	Dash fastener, Expansion Bolt	M/s Dev Ashish, Hilti, Fischer or equivalent
17	Door closer, Floor springs	Dorma, Hafle, Hardwyn, Falcon or approved equivalent.
18	Drapery Rod	Vista Levlor or equivalent.
20	EPDM Gasket	Anand Lescuyer, Hanu or equivalent.
21	Epoxy Primer & Paints	Berger, Pidilite, CICO, BASF, SIKA.
22	Fibre Glass Shelf	Kamal, Bath King or equivalent.
23	Float Glass	Modi Float, Saint Gobain, Asahi
24	Flush Doors (ISI Mark only)	Kutty flush door, Anchor, Century, Kitlam, Action-Tesa, Archid, A-1 Teak Products-Indore, M.P. Wood Industries-Indore
25	Flush Valve	Aquel, Marc, Parryware . Jaquar or equivalent.
26	FRP Shutters	Fibre Glass Engineers, Raipur, Aashoo Model or equivalent
27	Galvanized/Stainless Steel Anchor Fasteners	Shakti, Arrow, Hilti, Fischer
28	GI fitting	Tata, Jindal, Surya, Zenith
29	GI Pipe	Tata, Zenith, Jindal
30	Glass Mosaic Tile	Bissazza, Saon or equivalent.
31	Gun Metal Gate Valve	Zoloto, Leader, SAINT
32	Gypsum Board / False Ceiling	Boral Gypsum / India Gypsum/ Lafarge/ St. Gobain
33	Hardner	Hard crete of Snowcem India, MC Deritop F.H.
34	Hydraulic Door Closer	Hardwyn, Godrej, Dorma
35	Hydraulic Floor spring	Hardwyn, Godrej Dorma or equivalent.
36	Jet Assembly for EWC	Parryware , Jaquar, Grohe, Kohler or equivalent
37	Laminate and Veneers	Marino, Greenlam, Formica, Kitlam, Durian, Ventura
39	Melamine Polish	Asian Paint, Pidilite, ICI Dulu, Burger
40	Metal False Ceiling	Nittobo / Armstrong / Trac / Durlum / Lafarge

MATERIALS:		BRAND/MAKE
41	Mineral Fibre Ceiling	Armstrong / Nitobo / Daikin /Hunter Douglas
42	Modular SS Railing System	Metallica Metals, D-line, Mobel Hardware.
43	M.S. Pipe (Railing)	Jindal / Tata, RINL, Prakash Surya
44	Marine Plywood / BWP Ply	Kitply / Duro / Century / Greenlam
46	Acrylic Distemper, Emulsion/ Synthetic Enamel Paint and Primer.	Asian, ICI Dulux, Berger, Nerolac
50	Ply Wood,	Kitply, Green ply, Century
52	Poly Sulphide / Silicon / Structural Silicon Sealant,	Pidilite, Choksey, Dow Corning, Wacker, GE, Du-pont
53	Polymer Modified Cementitious grout	Bal Endura, Pidilite or equivalent.
54	Pre-laminated Particle Board	Novapan, Kitlam, Action-Tesa, Associate or equivalent
55	Primer	Asian, ICI, Berger, Nerolac, Shalimar
56	PVC Rain Water Pipe & Fitting	Finolax, Kisan, Kasta, Supreme or equivalent.
57	PVC Shutter	Rajshri, Sintex or equivalent.
61	Stainless Steel	Jindal Stainless Steel, Salem Steel or equivalent
62	Stainless steel Sink with or without Draining board.	Nirali, Hindware, Frankee, Neelkanth, Jaquar
63	Stainless steel Door/Window fittings & Fixtures	Suzu, Dorma, ESSEMM, D.Line, Hettich
65	Structural steel section	TATA, SAIL, RINL
66	Super plasticizer	MC Bauchemie, Sika, Fosroc
68	Terrazzo tiles	Nitco, Bharat
69	Multicoat Synthetic Plaster/ Textured Exterior wall paint	Berger, Spectrum, Oikos, Snowcem, Heritage
70	Towel Ring/Towel Rod/Towel Rack	Marc, Jaquar, Grohe, Kohler or equivalent.
71	Tubular Section Windows	M/S Classic Engineers & Fabricator, Raipur, M/s JK Enterprises, Jaipur
73	Vitreous China Sanitaryware, Fittings & Fixtures	Hindware, Parryware, Jaquar or equivalent.
75	Vitrified Tile	Johnson Marbonite, Euro, Somany, Granito, Kajaria, Marbito
76	Waste Pipe	Kamal, Viking or equivalent
77	Water Proofing Compound (Liquid)	Pidilite, Cico, Impermo
78	White Cement	JK, Birla or equivalent.
79	CPVC Pipes	Astral Flowguard, Ashirvad, Prince, Supreme

Note: 2

a) If any makes stated above does not comply with the technical specifications given in the tender, then such a make shall not be allowed.
b) If for any Material Makes not given. It should be got approved from the Engineer incharge.
c) Only Class- I, reputed brand, BIS marked materials would be used in repair work of civil/electrical maintenance works as mentioned in this NIT.

The following are the acceptable makes of materials as indicated against individual items:

Sl. No.	Item	Acceptable Makes
1	PVC insulated Copper wire / Telephone wire	HPL / KEI / HAVELLS / RR Kabel / Polycab / Finolex/ Anchor/ L&T / NICCO (All with ISI Marked)
2	MCCB / Switch Gear with Thermomagnetic releases	L&T/Seimens/Legrand / Schneider/Hager/ABB/ GE/ Adhunik, 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/ MDS/ Havells/ ABB/ MDS ,GE, Hager, ABB, Siemens, Schneider, Adhunik, Havells, Indoasian
5	Steel Conduit.	BEC / AKG / MK, NIC, Rama, Novel
6	PVC Conduit	AKG, MK, Anchor, Finolex, Steel Craft, Saraswati, Swastik
7	Casing Caping	Saraswati, Polycab
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 Switch Box (the gauge of switch Box shall not less than 18 SWG & of the same make that of Switch) Front Plates, Telephone, T.V. Outlets Socket / Fan Regulator.	Clipsal, Crabtree, Anchor, L & T, ROMA, Siemens Northwest, MK (Blenze) / Legrand (Arteor) / Schneider (ZENCELO).
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.
13	Galvanize Octagonal Street light pole/ High Mast & galvonised bracket.	Bajaj/ Transrail/ Valmont/Aster.
14	HRC Protection Fuses/ Fuse Fittings.	Siemens/ L&T/ Schneider
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
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/Lengrand
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 & Switvhgear, 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, Indoasian.
25	MPCB	L&T, ABB, Siemens, Schneider

PART-C

SCHEDULES

[FOR (CIVIL) COMPONENT]

SCHEDULE 'A'

Schedule of quantities (Enclosed) Page No. **99 to 118 Civil (Part -C)**

SCHEDULE 'B'

Schedule of materials to be issued to the contractor.

S.No.	Description of item	Quantity	Place of Issue	Rates in figures & words at which the material will be charged to the contractor
1	2	3	4	5
------- NIL --------				

SCHEDULE 'C'

Tools and plants to be hired to the contractor

Sl. No.	Description	Hire charges per day	Place of Issue
1	2	3	4
------- NIL --------			

SCHEDULE 'D'

Extra schedule for specific requirements/documents for the work, if any.

------- NIL --------

SCHEDULE 'E'

General Conditions of Contract for CPWD

1. Reference to General Conditions of contract Works, 2014 as amended upto CON/282

Name of work**:** "Annual Repair and Maintenance of Civil/Horticulture/Electrical/plumbing of Hospital Buildings, Medical College Building, Nursing College, Ayush PMR Building, Trauma Building, Service Buildings & Hostels at All India Institute of Medical Sciences, Raipur (AIIMS)Raipur".

Estimated cost of work	(Civil + Electrical) ₹ 76, 05,126/-
(i) Earnest money:	₹ 1, 52, 103/-
(ii) Performance guarantee:	₹ 5% of Tendered value
(iii) Security Deposit:	5% of tendered value plus 5% of performance guarantee for contract, involving maintenance of the building and services / other work after construction of same building and services / other work.

SCHEDULE 'F'

General Rules & Directions:

	Officer inviting tender -	**The Superintending Engineer, 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	**The Superintending Engineer, AIIMS Raipur**
2(viii)	Accepting Authority	**Executive/ Superintending Engineer, AIIMS Raipur**
2(x)	Percentage on cost of materials and labour to cover all overheads and profits.	**25% (Twenty Five per cent)**
2(xi)	Standard schedule of Rates	**For Civil: -** **Delhi Schedule of Rate 2014 for Internal Civil Works** and Schedule of Rate 2014 for External Civil **Works with correction slips issued upto date of receipt**
2(xii)	Department	**of tender. AIIMS Raipur**
9(ii)	CPWD Form **8** (Print edition -2014) as modified Standard CPWD contract Form	& corrected upto DGW/CON/ 282

Clause 1

(i) Time allowed for submission of performance guarantee from the date of issue of letter of acceptance : 15 day

(ii) Maximum allowable extension with late fee @ 0.10% per day of performance guarantee amount beyond the period as provided in (i) above : 1 to 15 days

Clause 2

Authority for fixing compensation under clause 2 : Superintending Engineer, AIIMS Raipur

Clause 2A

Whether clause 2A shall be applicable : No

Clause 5

No. of days from the date of issue of letter of acceptance for reckoning date of start : 10 days

Milestone(s) : - as per Table given below

~~Table of milestone(s)~~

~~Mile stone as per Civil Work (PART – C)~~

~~S No~~	~~Description of Milestone (Physical)~~	~~Time allowed (From date of start)~~	~~Amount to be withheld in case of non-achievement of milestone as assessed from the running payments~~
~~1.~~	~~Frame work i.e. scaffolding for structural glazing work~~	~~¾ Month from the date of start~~	~~1.25% of agreement amount will be withheld from running bill for each milestone which shall be not achieved.~~
~~2.~~	~~Aluminum frame works complete, 50% work of RCC wall & brick work~~	~~1 ½ Months from the date of start~~	
~~3.~~	~~80 %Structural glazing, 80%RCC wall, brick works, flooring.~~	~~2 ¼ Months from the date of start~~	
~~4.~~	~~100% complete of work in all respect.~~	~~3 (Three) Months from the date of start~~	

Time allowed for execution of work : **12 (Twelve) Months**

Authority to decide

(i) Extension of Time : **Superintending Engineer, AIIMS Raipur.**

(ii) Rescheduling of mile stones : Not Applicable

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

Clause 6 Clause applicable

Clause 6A: Computerized measurement book applicable.

Clause10A

List of testing equipment to be provided by the contractor at site lab — **As per instructions given and required by Engineer In charge**

Clause10B

Whether clause 10B shall be applicable — **Not Applicable**

Clause10C

Component of labour expressed as Percent of value of work — **25 %**

Clause10CA — **Not Applicable**

Clause10CC

Clause 10CC to be applicable in contracts with sipulated period of compensation exceeding the period shown in next column : **Not Applicable**

Clause 12

12.2 & 12.3

Deviation limit beyond which clauses 12.2 & 12.3 shall apply for overall work (Other than civil) — 30%

12.5 Deviation limit beyond which clauses 12.2 & 12.3 shall apply for cable & wire — 50%

Clause 16

Competent Authority for deciding reduced rates.

For Civil: Superintending Engineer, AIIMS Raipur

Clause 18

List of mandatory machines, tools and plants to be deployed by the contractor at site.	**As required by Engineer in Charge**

Clause 25 Superintending Engineer, AIIMS Raipur

Clause 36(i) **Applicable**

"Requirement of Technical Representative(s) and Recovery Rate for Civil works

SNo	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 OR Diploma (3 Years) Engineer	CIVIL	Technical Representative cum site Engineer	2 years OR 5-years	ONE	₹ 25000/- PM. OR ₹ 15000/- PM	Rupees Twenty Five Thousand Per Month each OR Rupees Fifteen Thousand Per Month each

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

Clause 42(Not applicable for Civil works)

RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

Sl No.	Description of item	Rates in figures and words at which Recovery shall be made from the Contractor	
		Excess beyond Permissible variation	Less use beyond the permissible variation
1.	Cement	N.A.	
2.	Steel Reinforcement	N.A.	

SCHEDULES

[FOR (ELECTRICAL) COMPONENT]

SCHEDULE 'A'

Schedule of quantities (Enclosed) Page No. **118 to 130 Electrical (Part -C)**

SCHEDULE 'B'
Schedule of materials to be issued to the contractor.

S.No.	Description of item	Quantity	Place of Issue	Rates in figures & words at which the material will be charged to the contractor
1	2	3	4	5

------- NIL --------

SCHEDULE 'C'

Tools and plants to be hired to the contractor

Sl. No.	Description	Hire charges per day	Place of Issue
1	2	3	4

NIL

Extra schedule for specific requirements/documents for the work, if any. As enclosed

SCHEDULE 'E'

General Conditions of Contract for CPWD

2. Reference to General Conditions of contract Works, 2014 as amended upto CON/282

Name of work**:** "Annual Repair and Maintenance of Civil/Horticulture/Electrical/plumbing of Hospital Buildings, Medical College Building, Nursing College, Ayush PMR Building, Trauma Building, Service Buildings & Hostels at All India Institute of Medical Sciences, Raipur (AIIMS)Raipur".

Estimated cost of work	**(Civil + Electrical) ₹ 7,605,126/-**
(i) Earnest money:	**₹ 1, 52, 103/-**
(ii) Performance guarantee :	5% of tendered value.
(iii) Security Deposit:	5% of tendered value plus 5% of performance guarantee for contract, involving maintenance of the building and services / other work after construction of same building and services / other work.

SCHEDULE 'F'

General Rules & Directions:

	Officer inviting tender -	**The Superintending Engineer, 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	**The Superintending Engineer, AIIMS, Raipur**
2(viii)	Accepting Authority	**The Superintending Engineer, AIIMS, Raipur**
2(x)	Percentage on cost of materials and labour to cover all overheads and profits.	**15% (Fifteen per cent)**
2(xi)	Standard schedule of Rates	
	For Electrical: -	**Delhi Schedule of Rate 2014 for Internal Works** and Schedule of Rate 2014 for External **Works with correction slips issued upto date of tender.**
	Electrical	
	E**lectrical**	
	of receipt	
2(xii)	Department	**AIIMS Raipur**
9(ii)	CPWD Form **8** (Print edition -2014) as modified Standard CPWD contract Form	& corrected upto DGW/CON/ 282

Clause 1

(iii) Time allowed for submission of performance guarantee from the date of issue of letter of acceptance : 15 day

(iv) Maximum allowable extension with late fee @ 0.10% per day of performance guarantee amount beyond the period as provided in (i) above : 1 to 15 days

Clause 2

Authority for fixing compensation under clause 2 — Superintending Engineer, AIIMS Raipur

Clause 2A

Whether clause 2A shall be applicable : No

Clause 5

No. of days from the date of issue of letter of acceptance for reckoning date of start : 10 days

~~**Milestone(s) : - as per Table given below**~~

~~**Table of milestone(s)**~~

~~Mile stone as per ElectricalWork (PART – C)~~

~~S No~~	~~Description of Milestone (Physical)~~	~~Time allowed (From date of start)~~	~~Amount to be withheld in case of non-achievement of milestone as assessed from the running payments~~
~~1.~~			
~~2.~~		~~Not Applicable~~	
~~3.~~			
~~4.~~			

Time allowed for execution of work — **12 (Twelve) Months**

Authority to decide

(i) Extension of Time — Superintending Engineer, AIIMS Raipur.

(ii) Rescheduling of mile stones — Not Applicable

(iii) Shifting of date of start in case of delay in handing over site — Superintending Engineer, AIIMS Raipur.

Clause 6, 6A

Clause applicable **6**

Clause not applicable **6 A**

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 — **Rs. 1.00 Lakhs for Electrical Works**

Clause10A

List of testing equipment to be provided by the contractor at site lab. **Not Applicable**

Clause10B

Whether clause 10B shall be applicable **Not Applicable**

Clause10C

Component of labour expressed as Percent of value of work **15 %**

Clause10CA

Material covered under this clause	Nearest materials (Other than cement, reinforcement bars and structural steel) for which All India Whole Sale Price Index is to be followed.	Base Price of all materials covered under clause 10 CA *
1 Cement 2 Steel reinforcement 3 Structural steel	NA NA NA	1. /- Per MT 2. /- Per MT 3. /- Per MT

Clause10CC

Clause 10CC to be applicable in contracts with stipulated period of compensation Exceeding the period shown in next column : **Not Applicable**

Clause 11

Specifications to be followed for execution of work **For Electrical :BIS, CPWD Specification for Electrical works Part-I (Internal) 2013, Part-II (External) 1994 – amended upto date of receipt of tender.**

Clause 12

12.2 & 12.3
Deviation limit beyond which clauses 12.2 & 12.3 shall apply for overall work (Other than civil) 30%

12.6 Deviation limit beyond which clauses 12.2 & 12.3 shall apply for cable & wire 50%

Clause 16

Competent Authority for deciding reduced rates.
For Electrical : Superintending Engineer, AIIMS Raipur

Clause 18

List of mandatory machines, tools and plants to be deployed by the contractor at site. **As required by Engineer in Charge**

Clause 25 Superintending Engineer, AIIMS Raipur
36(i) **Not Applicable**

"Requirement of Technical Representative(s) and Recovery Rate for Electrical works

SNo	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 OR Diploma Engineer	ELECTRICAL ELECTRICAL	Technical Representative OR (Project Planning / Site / Billing Engineer)	2-years OR 5-years	ONE OR ONE	Rs.15000/- PM. OR Rs. 15000/- PM	Rupees Fifteen Thousand Per Month each OR Rupees Fifteen Thousand Per Month each

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

Clause 42(Not applicable for Electrical works)

RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

Sl No.	Description of item	Rates in figures and words at which Recovery shall be made from the Contractor	
		Excess beyond Permissible variation	Less use beyond the permissible variation
1.	Cement	N.A.	
2.	Steel Reinforcement	N.A.	

Annexure I

PROPOSAL FOR ASSOCIATING CIVIL/ELECTRICAL AGENCIES for CIVIL/ELECTRICAL INSTALLATION, FIRE ALARM WORK AND DOWN COMER

We hereby propose the following Civil agencies as per details mentioned against each. Their consent letters are also attached as per Annexure II

S No.	Name of **Civil/Electrical** contractor/ Firm	Category and class of registration in CPWD , MES, BSNL, Chhattisgarh State PWD / Work experience	Registration No.	Monetary limit of work	Validity of registration	Consent letter attached (yes/No)
1.						
2.						
3.						

Note :- A copy of registration order/ Work experience shall be attached for each agency.

Contractor's signature

Annexure I

CONSENT LETTER

I/We hereby give my/ our consent to work as Civil/Electrical contractor till the completion of work and I/we will be responsible for necessary action to hand over the work and for rectification of defects and repair during the maintenance period. I/we will execute the work as per CPWD specification and additional conditions of the works.

I/we will also engage suitable Engineer for the work as per condition of work. I further certify that the above particulars pertaining to me are correct.

Signature of Civil/Electrical Contractor

Annexure III

Memorandum of Understanding

Rs. 100/- Non-judicial stamp

This Memorandum of Understanding (MOU) is made on the _____ at _____

Between

M/s _____ (Main Contractor) having his registered office at _____ which expression shall unless repugnant to the subject or context include its administrators, successors and assigns.

And

M/s _____ (Associate contractor) registered in CPWD, MES, BSNL, Chhattisgarh State PWD as class : _____ Civil contractor and having his registered office at _____ which expression shall unless repugnant to the subject or context include its administrators, successors and assign.

Whereas, the All India Institute of Medical Sciences, Raipur, have issued tender papers to quote for the following work to M/s _____(Main Contractor).

Name of work: **"Annual Repair and Maintenance of Civil/Horticulture/Electrical/plumbing of Hospital Buildings, Medical College Building, Nursing College, Ayush PMR Building, Trauma Building, Service Buildings & Hostels at All India Institute of Medical Sciences, Raipur"**

Whereas, This Memorandum of Understanding has been entered into to execute the above work by the Main Contractor and Associate Contractor.

Whereas, both the parties have gone through and understood the various conditions and clauses of the tender and willingly agree to abide by them.

This MOU shall be valid till the duration of completion of above work and shall be extended if so required by the AIIMS Raipur.

Now, therefore it is agreed between the parties here to as follows:-

1 :- The associated Civil contractor shall completely execute, perform and do all the works mentioned and described in the main agreement for its Civil components according to the specifications, terms and conditions etc. of the main agreement.

2 :- The associated Civil contractor shall execute and complete the works in all respect up to full satisfaction of the AIIMS Raipur officers and attend to them during their inspection at site, meetings etc., whenever required by the AIIMS Raipur officers.

3 :- The cost of Civil works executed by the associated Civil contractor will include the cost of all the materials, accessories, equipments, tools & plants, laborers technical persons required etc. in all respect.

4 :- The associated Civil contractor is responsible for getting recorded measurements and preparation, submissions & pursuance of payment of the bills of the work done for Civil portion of the main agreement.

5 :- **The rate will be as per the schedule enclosed.**

6 :- The Quantity will be as per actual measurement as received from AIIMS Raipur to main contractor and the rate will be as per the mutually agreed.

7 :- The payment to associate contractor will be released after the payment to main contractor is made by the AIIMS Raipur.

8 :- The technical staff required for the associate discipline shall be of associate contractor.

9 :- The guarantee of the installation after the completion of the work shall be responsibility of the associate Civil contractor as required by the AIIMS Raipur.

10 :- There is no service tax liability; work being related to the construction of the Central Govt. Deptt. However, if any liability of the service tax is imposed on the associated Civil contractor then it will be paid by main contractor.

11 :- Either party shall not repudiate the contract in mid way without the consent of each other. Otherwise it will be treated as breach of agreement for any reason whatsoever.

12 :- The main agency shall be solely responsible for deferment & rescheduling of each milestone fixed as per contract documents and in such eventuality, the consequences arising out of the same rests on main agency.

13 :- The main contractor only shall be responsible for getting extension of delay regularized and liability what so ever flowing out shall lies with them. There shall be no direct or indirect impact on associate contractor.

14 :- TDS shall be deducted by the main contractor as per Income Tax law from associated agency. In case liability of tax other than Income Tax (Such as vat, service tax, or any other mechanism formed) is levied on associated contractor then the main agency will reimburse it in full to associated agency.

15 :- The associated contractor shall be bound to execute work upto a deviation limit of 30% in quantities of items of work at the agreement rate. Beyond deviation limit the rates will be decided by main & associated contractor on mutually agreed basis.

16 :- For the items such as extra items, substitute items and new items other than the items of main agreement, if any incorporated in the work, and then the main contractor shall pay the full amount so approved to the associate contractor.

17 :- The validity of rates shall be _____ months after finalization & acceptance of MOU by the competent authority.

18 :- In case main contractor delays the payment to associated contractor after the payment is released by department to the main contractor then on receipt of delay in payment from associate contractor the AIIMS Raipur shall directly make the payment to associated contractor.

19 :- The main contractor shall at their cost provide necessary requisite arrangement for storage of material.

20 :- Sand & cement used in the Civil work shall be provide by main contractor.

21 :- Security Deposit as deducted by the AIIMS Raipur will be reimbursed by main contractor to associate contractor. However associated Civil contractor will deposit 2 ½ % of Agreement amount of Rs. _____ in shape of FDR towards S/D to be retained by main contractor which will refunded to Civil contractor after completion of Civil work.

22 :- The Income tax, Commercial tax and labour cess tax deducted by the AIIMS Raipur from the bills of Civil work shall be reimbursed by the main contractor in favour of the associated Civil contractor accordingly.

In witness where of we have put our hand seal on date _____.

Enclose:- Schedule of rates.

Signature
(Associate Contractor)
Address : _____

Signature
(Major Contractor)
Address : _____

ADDITIONAL SPECIFICATION, TERMS & CONDITIONS

Package (A) Civil/Electrical installation & C) Security Light

1 Any damage done to the man, machine and building during the execution of work shall be the responsibility of the contractor and same will have to be made good promptly by the contractor at his own cost to the entire satisfaction of the Engineer-in-Charge.

2 The Civil/Electrical work shall be executed in close coordinated manner with client department. Quarters are occupied and shall be made available as and when vacated during the currency of tender. No claim for idle labour will be admissible.

3 Conduit layout drawing shall be got approval by Engineer -in-Charge before lying of conduit.

4 Watch and ward:-

Watch & ward for the installations, materials, including materials supplied by the department shall be responsibility of the contractor till the installations / left over materials are finally taken over by the department. Nothing shall be payable on this account separately as this is deemed to be included within scope of work.

5 Completeness of tender:-

(a) Statutory deduction of "Contract Tax" at source shall be made while releasing payment through running / final bills. A certificate specifying the rate and amount of deduction shall however be issued.

(b) No. form `D', form 31/32 (Road Permit) shall be issued by the department.

6 Conformity to specifications:-

a) The work shall be carried out strictly in accordance with C.P.W.D General Specifications for Civil Works as amended up to date and also as per the instructions of the Engineer-in-Charge

b) The work shall be carried out strictly in accordance with C.P.W.D. Specifications for Electric Works 2013 (Internal) and 1994 (External) as amended up to date and also in accordance with the Indian Electricity Rules, 1956 and Indian Electricity Act, 1910 as amended up to date and as per the instructions of the Engineer-in-Charge.

c) Materials to be used confirming to relevent IS and should be from approved manufacturer from CPWD.

d) 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.

e) All accessories like locks, SS Handles, Tower Bolts, Aldrops, Door Closers, and

Glasses, Sanitary / Plumbing items shall be ISI marked.

f) All accessories like switches, sockets, C/roses, holders shall be ISI marked.

g) Contractor shall have to prove bonafides of the make of materials by producing necessary documentary evidence. Firms are advised accordingly to obtain prior approval of Engineer- in-Charge for proposed make of materials before bringing materials to site of work.

h) Crimping type ferrules / thimbles shall be provided for wire termination in switches, sockets, MCB's etc as reqd.

i) Phenolic laminated sheet be of only ISI Marked. Covers for adopter box and function box shall also be of white phenolic laminated sheet.

(7) Earthing connections:-

I. All fans & fittings are to be properly earthed for which no extra will be paid.

II. 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.

III. Termination of wiring inside DB's & main boards should be by crimped connections.

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

V On completion of work the contractor shall arrange for insulation and earth continuity test as per IE rules in the presence of the Engineer – in – Charge or his representative and shall submit the test report in triplicate.

8 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.

(c.) Contractor or his authorized representative is bound to sign the site order book as and when required by the Engineer-in-Charge.

(d) The contractor shall remain responsible for attending complaints free of cost for the minimum period of One Year for satisfactory performance of installations against the scheduled work done.

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

(f) If for any Material Makes not given, it should be got approved from the Engineer - in - Charge.

ADDITIONAL TERMS AND CONDITIONS
Package (B) Fire alarm

1. GENERAL: These specifications cover manufacture all preparatory work & testing as may be necessary before dispatch & delivery of equipments at site, assembly and installation, final testing, commissioning, and one year guarantee period.

2. The work shall be executed as per CPWD General Specifications for part V (wet riser & sprinkler system) 2006 . CPWD General Specifications for Civil Works Part I (Internal 2013), for external works Part II 1994 & Part IV (Substation 2013) as amended upto date. Relevant IE Rules, relevant IS and as per directions of Engineer-in-Charge.

3. SITE INFORMATION
The tenderer should, in his own interest, visit the site and familiarise himself with the site conditions before tendering.

4. SAFETY CODES AND LABOUR REGULATIONS

i) In respect of all labour employed directly or indirectly on the work for the performance of the contractor's part of work, the contractor at his own expense, will arrange for the safety provisions as per the statutory provisions, B.I.S. recommendation, factory act, workman's compensation act, CPWD code and instruction issued from time to time. Failure to provide such safety requirements would make the tenderer liable for penalty for Rs. 200/- for each violation. In addition the Engineer-in-charge-, shall be at liberty to make arrangement and provide facilities as aforesaid and recover the cost from the contractor.

ii) The contractor shall provide necessary barriers, warning signals and other safety measures while laying pipelines, ducts cables etc. Or wherever necessary so as to avoid accident. He shall also indemnify CPWD against claims or compensation arising out of negligence in this respect. Contractor shall be liable, in accordance with the Indian Law and regulations for any accident occurring due to any cause. The department shall not be responsible for any accident occurred or damage incurred or claims arising there from during the execution of work. The contractor shall also provide all insurance including third party insurance as may be necessary to cover the risk. No extra payment would be made to the contractor due to the above provisions thereof.

5. RATES :

a) The rates quoted shall be inclusive of all taxes i.e. VAT, Excise Duty, Sales Tax etc.(But except Service Tax) as service tax is exempted for Govt. Building, as per clause 12 of Gazzette notification no 12/2002-service tax, Dated 17.03.2012. Therefore, the same i.e. service tax is not applicable to this work & hence, no need for firm to deposit service tax with deptt. of Revenue. Further, clause 37 General Conditions of Contract for CPWD in respect of service tax shall stands amended in light of above notification.

b) Octroi duty shall not be paid separately but octroi exemption certificate can be furnished by the department on demand. However, the department is not liable to re-imburse the octroi duty in case exemption certificates are not honoured by the concerned authorities.

6. EXTENT OF WORK

a) The work shall comprise of entire labour including supervision and all materials necessary to make a complete installation and such tests and adjustments and commissioning as may be required by the department. The term complete installation shall not only mean major items of the plant and equipments covered by specifications but all incidental sundry components necessary for complete execution and satisfactory performance of installation with all layout charts whether or not those have been mentioned in details in the tender document in connection with this contract.

b) Minor building works necessary for installation of equipment, foundation, making of opening in floors wall & slabs and restoring to their original condition, finish and necessary grouting etc. as reqd. Nothing extra shall be paid on this account.

7. SUBMISSION OF PROGRAMME

Within fifteen days from the date of receipt of the letter of acceptance, the successful tenderer shall submit his programme for submission of drawing, supply of equipment, installation, testing, commissioning and handing over of the installation to the Engineer-in-charge.

8. 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.

9. SUBMISSION OF MANUALS

The successful tenderer should furnish well in advance three 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.

10. DISPATCH OF MATERIALS TO SITE AND THEIR SAFE CUSTODY

The contractor shall dispatch materials to site in consultation with the Engineer-in-charge. Watch & ward however, shall be the responsibility of contractor. Safe custody of all machinery and equipment supplied by the contractor shall be the responsibility of the contractor till final taking over by the department.

Contractor shall have to prove bonafides of the make of materials by producing necessary documentary evidence firms are advised accordingly to obtain prior approval of Engineer-in-charge for proposed make of materials before bringing materials to site of work. However the contractor will be responsible for quality of material used in the work even after such approval.

11. QU ALITY OF MATERIALS AND WORKMANSHIP

i) The components of the installation shall be of such design so as to satisfactory function under all conditions of operation.

ii) 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.

iii) 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.

12. INSPECTION AND TESTING

Initial Inspection and testing

i) 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 / authorised dealer's premises, before dispatch to the site by the contractor.

ii) 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.

iii) The materials duly inspected by engineer-in-charge or his authorised representative shall be dispatch to site by the contractor.

iv) 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.

v) The requirement of initial inspection can be dispensed with waived off by the Engineer-in-Charge.

vi) The requirement of initial inspection can be dispensed with waived off the Engineer in Charge.

13. GUARANTEE

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

ii) All equipments shall be guaranteed for a period of 12 months 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.

14. PAYMENT TERMS: Running payments shall be made only after executed the work at site.

The following percentage of contract rates shall be payable against the stages of work shown here in:

S.No	Stage of Work	All items except running meter items.
I	After initial inspection (if any) & delivery at site in good condition on pro-rata basis	NA
II	On completion of pro-rata installation	NA
III	On testing, commissioning and handing over.	NA

For the other items payment shall be made after installation only.

15. 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 before the start of the work. The approval of drawings however does not absolve the contractor not to supply the equipments 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) Layout drawings of the equipments to be installed on terrace.
b) Plumbing drawings showing the layout of entire piping, dia & length of piping, valves and isometric drawing showing connections.
c) Dimensioned drawings of all Civil panels.

16. 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 fire control room. In addition one set will be given on compact disc.

a) Installations drawings giving complete details of all the equipments, 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 equipments.
c) Line diagram and layout of all Civil 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.

17. AFTER SALES SERVICES

The contractor shall ensure adequate and prompt after sales services in the form of maintenance, spares and personnel as and when required and shall minimize 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 equipments and accessories.
b) Operation and maintenance manual of major equipments, detailing all adjustments, operation and maintenance procedure.

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/Getech (All with ISI marked)/ Padmini
4	Wire	RR Kabel/Polycab/Havell's
5	Smoke dectectors	**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.

TERMS AND CONDITIONS

TECHNICAL SPECIFICATIONS

(I) General Specification

A. The work of Fire Alarm system shall be carried out in accordance to CPWD General Specifications for part V (wet riser & sprinkler system) 2006. CPWD General Specifications for Civil Works Part I (Internal 2013), for Part II (External) 1994 & Part IV (Sub station 2013) as amended upto date. Relevant IE Rules, relevant IS and as per directions of Engineer-in-Charge.

(II) Manual call box & other accessories:-

Works of the manual call box and other accessories shall be carried out as per section 2 & relevant section of CPWD General specification for Civil work, Part-VI fire alarm system 1988 (whereas applicable) as amended upto date.

(III) C& I and Sector Panel:-

Work of main fire control panel with PA system and sector panel shall be carried out as per section 4, 5 & 6 of CPWD General Specification for Civil works part VI fire alarm system 1988 as amended to date. However key features are as follows.

C& I Panel:

i. All the sectors/Zones connected to this panel shall be continuously monitored.

ii. Audio-visual alarm shall be provided in this panel to show the ZONE affected by fault in its wiring system or by fire. Such an alarm should be separate for fault and fire conditions.

iii. This shall be complete with necessary circuit for providing power supply to the entire FAS, drawing power from the mains / stand by battery.

iv. This panel shall transmit to its repeater panel if any, signal of alarm of fault and of fire

v. This panel shall be so designed that the audio alarm activation and silencing shall be as indicated I section 5 under heading sounders & silencing switches of CPWD General Specifications for Civil works part-VI – fire alarm system 1988.

vi. P.A. System equipment shall be as follows.

a) PA system shall be provided to enable transmission of announcements of instructions to the occupants in each zone, in the event of fire.

b) Fire alarm sounders in the premises shall be designed to function as loud speakers for the purpose. The microphone, necessary amplification equipment and control switches shall be provided as a part of the C & I panel.

c) The power rating and frequency response shall be suiting the requirements of the individual installations.

vii The Various control and indicating panels shall be totally enclosed, dust proof and vermin proof and shall be suitable for the environmental conditions at the site of their installation.

viii These shall be fabricated out of sheet steel of 1.6 mm thickness and designed for wall or floor mounting. They shall be front open able type with hinged cover and lock.

ix The C&I panels shall be designed such that the equipment for power supply, battery charging and P.A. system for FAS are housed in independent compartments.

x Suitable knocks out shall be provided for the entry of cables and wiring into the panels.'

xi All components and their wiring shall be arranged so as to be conveniently attended to from the front of the panels

xii All indicating lamps, control switches and buttons and fuses shall be located in the front of the panels. These shall be suitably and unambiguously labeled.

xiii The indicating lamps may be neon or LED type, to the following colors, The fire conditions shall be indicated by twin lamp:

a. Red to indicate FAULT condition.
b. Amber to indicate FAULT condition.
c. Green to indicate HEALTHY Condition.

xiv Test buttons to test the indicating lamps shall be provided.

xv Audio-visual indication shall be provided in this panels for the following:-

a. Fire in any zone connected to this panel
b. Faults in any zone connected to this panel i/c fault in wiring to the sector/zonal panels and removal of any fire detector/disconnection of leads to detectors.
c. Faults in this panel itself.
d. Mains supply failure
e. Low battery voltage.

xvi Only visual indication shall be provided as per requirement in this panels as per manufacturer standard.

xvii Facility shall be provided to test the zones individually, by simulating fault or fire condition. Each zone shall be capable of isolation for maintenance of test purposes leaving the remaining zones in healthy condition so that fire detection in those zones is not affected. Visual indications of such isolation shall be available on the panel.

xviii The panel shall also be provided with the following facility:-

a. Necessary test switches.
b. Panel sounder and silencing switch.
c. Switches to operate the fire alarm sounders zone-wise and also collectively at all zones.
d. P.A. system equipment and panel microphone.
e. Voltage & current indication.

SECTOR/ZONAL PANEL:

i. This panels shall provide visual indication for the following:-

a. System ON and healthy.
b. Fault in any zone connected to this panel.
c. Fire in any zone connected to this panel, with double lamp arrangement.
d. Isolation of a zone for testing purposes form C & I panel.

ii. Test switch shall be provided to test the lamps on this panel

iii. Where audio alarm is specified in tender specifications in any work in this panel, panel sounder and its silencing switch shall be provided.

iv. The power supply to operate this panel shall be drawn from the C & I panel.

2. Drawings and manual to be furnished by the contractor.

The contractor shall submit in duplicate the following drawings for approval by the department.

i. Layout of call boxes & sounders

ii. Wiring diagram for the complete system;.
iii. Circuit diagram of individual panels, P.A. system.
iv. Constructional details of the various control and indicating panels.
v. Three copies of detailed instructions & manuals of manufacturers for all equipments.

3. Before commencement of the installation.

The above drawings with observations of the department duly incorporated, shall be submitted to the Engineer-in-charge in triplicate along with any special instructions, with regard to handling, storage and installation.

TESTING & COMMISSIONING:

a) Testing before supply.

i) Detectors control and indicating panels, sounders, PA system equipments and battery unit with charger shall be tested at the manufacturer's works at the discretion of Engineer-in-charge to indicate satisfaction to the contract specification, and test.

ADDITIONAL TERMS AND CONDITIONS
Package (D) Down comer

1. GENERAL:

These specifications cover manufacture all preparatory work & testing as may be necessary before dispatch & delivery of equipments at site, assembly and installation, final testing, commissioning, and one year guarantee period.

2. The work shall be executed as per CPWD General Specifications for part V (wet riser & sprinkler system) 2006. CPWD General Specifications for CivilWorks Part I (Internal 2013), for Part II (External) 1994 & Part IV (Sub station 2013) as amended upto date. Relevant IE Rules, relevant IS and as per directions of Engineer-in-charge

3. SITE INFORMATION

The tenderer should, in his own interest, visit the site and familiarise himself with the site conditions before tendering.

4. SAFETY CODES AND LABOUR REGULATIONS

i) In respect of all labour employed directly or indirectly on the work for the performance of the contractor's part of work, the contractor at his own expense, will arrange for the safety provisions as per the statutory provisions, B.I.S. recommendation, factory act, workman's compensation act, CPWD code and instruction issued from time to time. Failure to provide such safety requirements would make the tenderer liable for penalty for Rs. 200/- for each violation. In addition the Engineer-in-charge-, shall be at liberty to make arrangement and provide facilities as aforesaid and recover the cost from the contractor.

ii) The contractor shall provide necessary barriers, warning signals and other safety measures while laying pipelines, ducts cables etc. Or wherever necessary so as to avoid accident. He shall also indemnify AIIMS Raipur against claims or compensation arising out of negligence in this respect. Contractor shall be liable, in accordance with the Indian Law and regulations for any accident occurring due to any cause. The department shall not be responsible for any accident occurred or damage incurred or claims arising there from during the execution of work. The contractor shall also provide all insurance including third party insurance as may be necessary to cover the risk. No extra payment would be made to the contractor due to the above provisions thereof.

5. RATES :

a) The rates quoted by the tenderer, shall be firm and inclusive of all taxes (i/c works contract taxes), duties and levies all charges for packing, forwarding, insurance, freight and delivery, installation, testing, commissioning etc. at site i/c temporary constructional storage, risks, over head charges, general liabilities/ obligations and clearance from concerned authorities. However the fee for these inspections shall be borne by the department, on production of supporting documents. Rates shall be excluded of services tax.

6. WATCH AND WARD OF MATERIALS & EQUIPMENT

The Contractor shall, on supply of material and equipment for bonafide use on work at site, shall continue to be responsible for the safe custody till they are installed in position, tested, commissioned and handed over to the Engineer-in-charge. The contractor shall furnish an unstamped receipt to the Engineer-in-charge for all the items of materials and equipments so supplied at site before taking payment for the same.

7. **VERIFICATION OF CORRECTNESS OF EQUIPMENT AT DESTINATION:**

The contractor shall have to produce all the relevant records to certify that the genuine equipment from the manufacturers has been supplied and erected.

8. WORKS TO BE DONE BY THE CONTRACTOR

The following works shall be done by the contractor and thereof, their cost shall be deemed to be
included in their tendered cost-whether specifically indicated in the schedule of work or not:-

i) Foundations for equipments including foundation bolts and vibration isolation spring/pads.
ii) Suspenders, bracket and floor/wall supports for suspending/supporting ducts and pipes/
iii) Excavation and refilling of trenches in soil wherever the pipes are to be laid directly in ground, including necessary base treatment and supports.
iv) Sealing of all floor slab/ wall openings provided by the Department or contractor for pipes and cables, from fire safety point of view, after laying of the same.
v) Painting of all exposed metal surfaces of equipments and components with appropriate colour.
vi) Making opening in the floor/ slabs / walls for carrying pipe lines, cables etc. and modification of existing opening in the floor / slab/wall wherever provided for cables / pipes etc & repairs the same, nothing extra shall be paid on this account.
vii) Making good all damages caused to the structure during installation and restoring the same to their original finish.
viii) Arrangement of power supply .

10. MACHINERY FOR ERECTION

All tools and plants required for unloading/handling of equipments and materials at site, their assembly, erection, testing and commissioning shall be the responsibility of the contractor.

11. COMPLETENESS OF THE TENDER

All sundry equipments, fitting, assembly, accessories, items, foundation bolts, supports termination lugs for Civilconnection cable glands, junctions boxes and all other items which are useful and necessary for proper assembly and efficient working of the various equipment and components of the work shall be deemed to have been included in the tender, irrespective of the fact whether such items are specifically mentioned in the tender or not.

12. EXTENT OF WORK

a) The work shall comprise of entire labour including supervision and all materials necessary to make a complete installation and such tests and adjustments and commissioning as may be required by the department. The term complete installation shall not only mean major items of the plant and equipments covered by specifications but all incidental sundry components necessary for complete execution and satisfactory performance of installation with all layout charts whether or not those have been mentioned in details in the tender document in connection with this contract.

b) Minor building works necessary for installation of equipment, foundation, making of opening in floors wall & slabs and restoring to their original condition, finish and necessary grouting etc. as reqd. Nothing extra shall be paid on this account.

13. SUBMISSION OF PROGRAMME

Within fifteen days from the date of receipt of the letter of acceptance, the successful tenderer shall submit his programme for submission of drawing, supply of equipment, installation, testing, commissioning and handing over of the installation to the Engineer-in-charge.

14. 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.

15. SUBMISSION OF MANUALS

The successful tenderer should furnish well in advance three copies of detailed instructions and manuals of manufacturers for all equipments such as main fire pump & jockey pump regarding installation, adjustments operation and maintenance i/c preventive maintenance & troubleshooting.

16. DISPATCH OF MATERIALS TO SITE AND THEIR SAFE CUSTODY

The contractor shall dispatch materials to site in consultation with the Engineer-in-charge. Watch & ward however, shall be the responsibility of contractor. Safe custody of all machinery and equipment supplied by the contractor shall be the responsibility of the contractor till final taking over by the department.

Contractor shall have to prove bonafides of the make of materials by producing necessary documentary evidence firms are advised accordingly to obtain prior approval of Engineer-in-charge for proposed make of materials before bringing materials to site of work. However the contractor will be responsible for quality of material used in the work even after such approval.

17. QUALITY OF MATERIALS AND WORKMANSHIP

i) The components of the installation shall be of such design so as to satisfactory function under all conditions of operation.

ii) 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.

iii) 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.

18. CARE OF THE BUILDING

Care shall be taken by the contactor during execution of the work to avoid damage to the building. He shall be responsible for repairing all such damages and restoring the same to the original finish at his cost. He shall also remove all unwanted and waste materials arising out of the installation from the site of work from time to time.

19. COLOUR SCHEME FOR THE EQUIPMENT AND COMPONENT

Pump motor shall be painted with red colour as per General Specification for part v (wet riser & sprinkler system) 2006.

20. CONTRACTOR LIABILITY FOR DAMAGES CAUSED AND IMPERFECTION NOTICED WITHIN THE MAINTENANCE PERIOD

If the contractor or his working people or servants shall break, deface, injure or destroy any part of the building, in which they may be working, or any building,

road, road kerb, fence, enclosure, water pipe, cables, drains, electric or telephones posts or wires, trees grass or grassland, or cultivated ground contingeous to the premises on which the work or any part of it is being executed, or if any, damage shall happen to the work while in progress from any cause whatever, or if any detect, shrikage or other faults appear in the work within 12 months after a certificate final or otherwise of its completion shall have been given by the Engineer-in-charge arising out of defective or improper materials or workmanship, the contractor shall upon a receipt of a notice in writing on that behalf make the same good at his own expense, or in default, the Engineer-in-Charge may cause the same to be made good by other workmen and deduct the expense from any sums that may be then or at any time thereafter may become due to the contractor or from his security deposit.

21. INSPECTION AND TESTING

Initial Inspection and testing

i) 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 / authorised dealer's premises, before dispatch to the site by the contractor.

ii) 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.

iii) The materials duly inspected by engineer-in-charge or his authorised representative shall be dispatch to site by the contractor.

iv) 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.

v) The requirement of initial inspection can be dispensed with / waived off by the Engineer-in-Charge.

22. FINAL INSPECTION & TESTING

Final inspection & testing will be done by the Engineer-in-charge or his representative standard practice & General Specification for part v (wet riser & sprinkler system) 2006.

23. SAFETY MEASURES

All equipments shall incorporated suitable safety provisions to ensure safety of the operating personnel at all times.

24. GUARANTEE

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

ii) All equipments shall be guaranteed for a period of 12 months 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.

25. PAYMENT TERMS: Running payments shall be made only after installation.

~~The following percentage of contract rates shall be payable against the stages of work shown here in:~~

~~S.No~~	~~Stage of Work~~	~~All items except running meter items.~~
~~I~~	~~After initial inspection (if any) & delivery at site in good condition on pro-rata basis~~	~~50%~~
~~II~~	~~On completion of pro-rata installation~~	~~25%~~
~~III~~	~~On testing, commissioning and handing over.~~	~~25%~~

For the other items payment shall be made after installation only.

26. 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 before the start of the work. The approval of drawings however does not absolve the contractor not to supply the equipments 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) Layout drawings of the equipments to be installed on terrace.
b) Plumbing drawings showing the layout of entire piping, dia & length of piping, valves and isometric drawing showing connections..
c) Dimensioned drawings of all Civil panels.

27. 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 fire control room. In addition one set will be given on compact disc.

a) Installations drawings giving complete details of all the equipments, 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 equipments.

c) Line diagram and layout of all Civil 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.

28. AFTER SALES SERVICES

The contractor shall ensure adequate and prompt after sales services in the form of maintenance, spares and personnel as and when required and shall minimize 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 equipments and accessories.

b) Operation and maintenance manual of major equipments, detailing all adjustments, operation and maintenance procedure.

29. TECHNICAL SPECIFICATIONS:-

a) <u>DOWN COMER SYSTEM</u>

Type, rating, material construction accessories & installation work shall be as per schedule of work & relevant chapter of General specifications for Civil works Part- v (wet riser & sprinkler system) 2006, amended to date.

b) CIVILWORKS

Civil works associated with this work namely motors, switch boards, power cabling control wiring earthing etc. shall be as per schedule of work & General specifications for Civil works. Part – I (Internal) 2013, Part II(External) 1994, Part – IV(Sub-station) 2013 & Chapter 10 of Part - V(wet riser & sprinkler system) 2006 amended to date.

LIST OF APPROVED MAKES OF MATERIALS

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

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 incharge.

ANNEXURE-(a)

RESPONSE TIME

Sl. No.	Type of complaint	Max permissible time for attendance of complaint from notice of complaint
1.0	**Electrical**	
1.1	Minor nature of complaints like replacement/ repairing of tube light, choke, power points, light points , switch, indicators of panels, socket, MCB, electronic regulators, capacitors of ceiling fans etc.	6 Hrs
1.2	Medium rectification works like street light replacement, Circuit breaker maintenance etc.	24Hrs
1.3	Major rectification works like rewinding of motors, ceiling fans replacement, Submersible pump repairing, High mass Street Light, Distribution Board, LT Panels etc.	48 Hrs or as per instruction of engineer in charge
2.0	**Sanitary Fixture**	
2.1	Minor nature of complaint e.g. replacement of washers, bib cock, entire tap, Jali for waste pipe, connection pipe, extension nipple, changing of small parts and repair parts, blockage in toilets/sink/pipe line etc.	6 Hours
2.2	Medium rectification works like urinal fixture, replacement of sanitary fixtures, valves, unions, manhole cleaning, ,plumbing leaks	24 Hours
2.3	Major rectification works like replacing soil, waste, rain water, vent pipes, water supply pipes etc.	48 Hrs or as per instruction of engineer in charge
3.0	**Civil**	
3.1	Minor nature of complaints like rectification repairing of door closers, renewing of putty of glass panes,	6 Hr
3.2	Medium rectification works like replacement of glass panes with wooden fillets, renewing glass panes with putti and nails, repairing/replacement of door closer/door stopper/handles/hinges/glasses handles, door hinge repairs, Tower bolts,El drops etc. and any other work as per direction of engineer in charge.	24 Hours
3.3	Major rectification works like repairing/replacement of false ceiling, Tile, flooring, kota stone, granite work, Tank cleaning work. brick work, plastering, painting,	48 Hrs or as per instruction of engineer in charge

ANNEXURE-(b)

अनुपालन प्रतिवेदन (Compliance Report)

शिकायत क. Complain No…… दिनाँक Date ……

शिकायत का संक्षिप्त विवरण सहित पता/स्थान
Brief description of complain alongwith Address/Place……

……..……..

कार्य सौंपा Work Assigned ……..

कार्य समाप्ति पर Work Complete on…….....

हस्ताक्षर/कर्मचारी का नाम Signature / Name of attendee
…….....

प्रमाणित है कि उपरोक्त कार्य में भाग लिया /पूरा हो गया है।
Certified that the above work has been attend/ completed.

मैं पूर्ण हुए कार्य से संतुष्ट हूँ /नही हूँ ।
I am satisfied/not satisfied with the work done.

टिप्पणी (यदि कोई है ।)
Remark (If any) :……

उपयोगकर्ता का नाम …….
User Name
पद ……...
Designation

मोबाइल न.……
Mob No.

अनुपालन प्रतिवेदन (Compliance Report)

शिकायत क. Complain No…… दिनाँक Date ……

शिकायत का संक्षिप्त विवरण सहित पता/स्थान
Brief description of complain alongwith Address/Place……

……..……

कार्य सौंपा Work Assigned ……

हस्ताक्षर/कर्मचारी का नाम Signature / Name of attendee
…….....

प्रमाणित है कि उपरोक्त कार्य में भाग लिया /पूरा हो गया है।
Certified that the above work has been attend/ completed.

मैं पूर्ण हुए कार्य से संतुष्ट हूँ /नही हूँ ।
I am satisfied/not satisfied with the work done.

टिप्पणी (यदि कोई है ।)
Remark (If any) :……

उपयोगकर्ता का नाम …….
User Name
पद ……...
Designation

मोबाइल न.……
Mob No.

ANNEXURE-(c)

MAINTENANCE COMPLAINT REGISTER

S. No./ Complain No.	Date & Time	Nature of complaint	Time Preference	Complaint attended Date & Time	Remarks	Signature of Contractor	Signature of AIIMS Authority

ANNEXURE-(d)

SCHEDULE OF QUANTITY -

[Component – Civil & Electrical]

Name of Work: "Annual Repair and Maintenance of Civil/Horticulture/Electrical/plumbing of Hospital Buildings, Medical College Building, Nursing College, Ayush PMR Building, Trauma Building, Service Buildings & Hostels at All India Institute of Medical Sciences, Raipur (AIIMS)".

SL. No	Description	Qty	Unit	Quoted Rate (in Rs.)	Rate in Figures (in Rupees)	Amount
1	BRICK WORK					
1.1	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in super structure above plinth level up to floor V level in :					
1.1.1	Cement mortar 1:4 (1 cement : 4 coarse sand)	5	cum			
1.1.2	Cement mortar 1:6 (1 cement : 6 Coarse sand)	5	cum			
2	WOOD AND P.V.C. WORK					
2.1	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.					
2.1.1	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	10	sqm			
2.2	Providing and fixing ISI marked, IS : 1341, M.S. heavy weight butt hinges with necessary screws etc. complete :					
2.2.1	125x90x4.00 mm	20	each			
2.2.2	100x75x3.50 mm	20	each			
2.2.3	75x60x3.10 mm	20	each			
2.3	Providing and fixing IS : 12817 marked stainless steel butt hinges with stainless steel screws etc. complete :					
2.3.1	125x64x1.90 mm	5	each			
2.3.2	100X58X1.90 mm	5	each			
2.3.3	75x47x1.80 mm	5	each			
2.3.4	50x37x1.50 mm	5	each			
2.4	Providing and fixing IS : 12817 marked stainless steel butt hinges (heavy weight) with stainless steel screws etc. complete :					
2.4.1	125x64x2.50 mm	10	each			
2.4.2	100x60x2.50 mm	10	each			
2.4.3	75x50x2.50 mm	10	each			

2.5	Providing and fixing aluminum extruded section body tubular type universal hydraulic door closer (having brand logo with ISi, IS : 3564, embossed on the body, door weight up to 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.	30	each			
2.6	Providing and fixing ISI marked aluminum butt hinges anodised (anodic coating not less than grade AC 10 as per IS: 1868) transparent or dyed to required color or shade with necessary screws etc. complete:					
2.6.1	125x75x4 mm	2	each			
2.6.2	100x75x4 mm	10	each			
2.6.3	75x63x4 mm	10	each			
2.7	Providing and fixing aluminum sliding door 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 nuts and screws etc. complete :					
2.7.1	300x16 mm	5	each			
2.7.2	250x16 mm	5	each			
2.8	Providing and fixing aluminum 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 :					
2.8.1	300x10 mm	30	each			
2.8.2	250x10 mm	10	each			
2.8.3	200x10 mm	10	each			
2.8.4	150x10 mm	2	each			
2.8.5	100x10 mm	2	each			
2.9	Providing and fixing aluminum handles, 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 :					
2.9.1	125 mm	10	each			
2.9.2	100 mm	10	each			
2.1	Providing and fixing aluminum 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.					
2.10.1	Twin rubber stopper	50	each			
2.11	Providing and fixing bright finished brass 100 mm mortice latch and lock, ISI marked, with six levers and a pair of anodised (anodic coating not less than grade AC 10 as per IS : 1868) aluminum lever handles of approved quality with necessary	10	each			

	screws etc. complete.					
2.12	Providing and fixing partition upto ceiling height consisting of G.I. frame and required board, including providing and fixing of frame work made of special section power pressed/ roll form G.I. sheet with zinc coating of 120 gms/sqm(both side inclusive), consisting of floor and ceiling channel 50mm wide having equal flanges of 32 mm and 0.50 mm thick, fixed to the floor and ceiling at the spacing of 610 mm centre to centre with dash fastener of 12.5 mm dia meter 50 mm length or suitable anchor fastener or metal screws with nylon plugs and the studs 48 mm wide having one flange of 34 mm and other flange 36 mm and 0.50 mm thick fixed vertically within flanges of floor and ceiling channel and placed at a spacing of 610 mm centre to centre by 6 mm dia bolts and nuts, including fixing of studs along both ends of partition fixed flush to wall with suitable anchor fastener or metal screws with nylon plugs at spacing of 450 mm centre to centre, and fixing of boards to both side of frame work by 25 mm long dry wall screws on studs, floor and ceiling channels at the spacing of 300 mm centre to centre. The boards are to be fixed to the frame work with joints staggered to avoid through cracks, M.S. fixing channel of 99 mm width (0.9 mm thick having two flanges of 9.5 mm each) to be provided at the horizontal joints of two boards, fixed to the studs using metal to metal flat head screws, including jointing and finishing to a flush finish with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and two coats of primer suitable for board as per manufacture's specification and direction of engineer in charge all complete.					
2.12.1	75 mm overall thickness partition with 12.5 mm thick double skin fire rated board conforming to IS: 2095: part I	5	sqm			
2.12.2	75mm overall thickness partition with 12.5 mm thick double skin tapered edged plain Gypsum board conforming to IS: 2095: part I	5	sqm			
2.13	Providing and fixing bright finished 100 mm mortice lock with 6 levers without pair of handles of approved quality for aluminum door, with necessary screws etc complete as per direction of Engineer- in-charge.	10	each			

2.14	Providing and fixing magnetic catcher of approved quality in cupboard / ward robe shutters, including fixing with necessary screws etc. complete.					
2.14.1	Triple strip vertical type	10	each			
2.14.2	Double strip (horizontal type)	10	each			
2.15	Providing and fixing sliding arrangement in racks/ cupboards/cabinets shutter by with stainless steel rollers to run inside C or E aluminum channel section (The payment of C or E channel shall be made separately)	10	each			
2.16	Providing and fixing to existing door frames.					
2.16.1	25 mm thick PVC flush door shutters made out of a one piece Multi chamber extruded PVC section of the size of 762 mm X 25 mm or less as per requirement with an average wall thickness of 1 mm (± 0.3 mm). PVC foam end cap of size 23x10 mm are provided on both vertical edges to ensure the overall thickness of 25 mm. M.S. tube having dimensions 19 mm x 19 mm and 1.0 mm (± 0.1 mm) is inserted along the hinge side of the door. Core of the door shutter should be filled with High Density Polyurethane foam. The Top & Bottom edges of the shutter are covered with an end-cap of the size 25 mm X 11 mm. Door shutter shall be reinforced with special polymeric reinforcements as per manufacturer's specification and direction of Engineer-in-charge to take up necessary hardware and fixtures. Stickers indicating the locations of hardware will be pasted at appropriate places	15	sqm			
2.17	Providing and fixing PVC Door Frame of size 50x47 mm with a wall thickness of 5 mm (± 0.2 mm), made out of single piece extruded PVC profile, with mitred cut joints and joint with 2 nos of PVC bracket of size 190 mm x 100 mm long arms of cross section size 35 x 15 mm & self driven self taping screws, the vertical door profiles to be reinforced with 40x20 mm M.S. rectangular tube of 0.8 mm , including providing EPDM rubber gasket weather seal throughout the frame, including jointing 5 mm PVC frame strip with PVC solvent cement on the back of the profile. The door frame to be fixed to the wall using 8 x100 mm long anchor fasteners complete, all as per manufacturer's specification and direction of Engineer -in- charge.	15	meter			
3	FLOORING					

3.1	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete.					
3.1.1	40 mm thick with 20 mm nominal size stone aggregate	50	sqm			
3.2	Cement concrete pavement with 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including finishing complete.	10	cum			
3.3	Extra for making chequers of approved pattern on cement concrete floors, steps, landing, pavements etc.	100	sqm			
3.4	Chequerred precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing and cleaning etc. complete, on 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand).					
3.4.1	Dark shade pigment using ordinary cement	10	sqm			
3.4.2	Ordinary cement without any pigment	10	sqm			
3.5	Providing and fixing 10 mm thick acid and/or alkali resistant tiles of approved make and colour using acid and/or alkali resisting mortar bedding, and joints filled with acid and/or alkali resisting cement as per IS : 4457, complete as per the direction of Engineer-in- Charge.					
3.5.1	In flooring on a bed of 10 mm thick mortar 1:4 (1 acid proof cement : 4 coarse sand)					
3.5.1.1	Acid and alkali resistant tile	2	sqm			
3.5.2	In dado/skirting on 12 mm thick mortar 1:4 (1 acid proof cement : 4 coarse sand)					
3.5.2.1	Acid and alkali resistant tile	0.5	sqm			
3.6	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :					
3.6.1	25 mm thick	5	sqm			
3.7	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	1	sqm			
3.8	Extra for pre finished nosing in treads of steps of Kota stone/ sand stone slab.	5	meter			

3.9	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 colors, 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.	20	sqm			
3.1	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 colors and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), including grouting the joints with white cement and matching pigments etc., complete.					
3.10.1	Size of Tile 600x600 mm	10	sqm			
3.10.2	Size of Tile 1000x1000 mm	10	sqm			
	Sub-Total					
4	FINISHING					
4.1	12 mm cement plaster of mix :					
4.1.1	1:6 (1 cement: 6 fine sand)	50	sqm			
4.2	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete.	150	sqm			
4.3	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade :					
4.3.1	Two or more coats on new work	200	sqm			
5	REPAIRS TO BUILDINGS					
5.1	Repairs to plaster of thickness 12 mm to 20 mm in patches of area 2.5 sq. meters and under, including cutting the patch in proper shape, raking out joints and preparing and plastering the surface of the walls complete, including disposal of rubbish to the dumping ground within 50 meters lead :					
5.1.1	With cement mortar 1:4 (1 cement : 4 fine sand)	50	sqm			
5.1.2	With cement mortar 1:4 (1cement: 4 coarse sand)	50	sqm			

5.2	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 within 50 meters lead :					
5.2.1	Door chowkhats	2	each			
5.2.2	Window chowkhats	2	each			
5.3	Fixing chowkhat in existing opening in brick/ RCC wall with dash fasteners/ Chemical fasteners of appropriate size (3 nos on each vertical member of door chowkhat and 2 nos on each vertical member of window chowkhats), including Cost of dash fasteners/ chemical fastener.	2	each			
5.4	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.					
5.4.1	For door/ window/ clerestory window	10	sqm			
5.5	Renewing glass panes, with putty and nails wherever necessary including racking out the old putty:					
5.5.1	Float glass panes of thickness 4 mm	10	sqm			
5.5.2	Float glass panes of thickness 5.5 mm	10	sqm			
5.6	Removing white or color wash by scrapping and sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete	30	sqm			
5.7	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade :					
5.7.1	Old work (one or more coats)	200	sqm			
5.8	Painting (one or more coats) on rain water, soil, waste and vent pipes and fittings with black anticorrosive bitumastic paint of approved brand and manufacture on old work :					
5.8.1	75 mm diameter pipes	200	meter			
5.8.2	100 mm diameter pipes	200	meter			
5.8.3	150 mm diameter pipes	200	meter			

5.9	Painting (two or more coats) on rain water, soil, waste and vent pipes and fittings with aluminum paint of approved brand and manufacture over a priming coat of ready mixed zinc chromate yellow primer on new work :					
5.9.1	75 mm diameter pipes	200	meter			
5.9.2	100 mm diameter pipes	200	meter			
5.9.3	150 mm diameter pipes	150	meter			
5.1	Wall painting with plastic emulsion paint of approved brand and manufacture to give an even shade:					
5.10.1	One or more coats on old work	20000	sqm			
5.11	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade :					
5.11.1	One or more coats on old work	5000	sqm			
5.12	Painting with aluminum paint of approved brand and manufacture to give an even shade:					
5.12.1	One or more coats on old work	300	sqm			
5.13	Painting with acid proof paint of approved brand and manufacture of required colour to give an even shade :					
5.13.1	One or more coats on old work	50	sqm			
5.14	Distempering with 1st quality acrylic washable distemper (ready made) of approved manufacturer and of required shade and colour complete. as per manufacturer's specification.					
5.14.1	One or more coats on old work	1000	sqm			
5.15	Finishing walls with textured exterior paint of required shade :					
5.15.1	Old work (Two or more coats on existing cement paint surface applied @ 3.28 ltr/10 sqm.	200	sqm			
5.15.2	Old work (One or more coats) applied @ 1.82 ltr/10 sqm.	100	sqm			
5.16	Finishing walls with Acrylic Smooth exterior paint of required shade :					
5.16.1	Old work (Two or more coat applied @ 1.67 ltr/ 10 sqm) on existing cement paint surface	100	sqm			
5.16.2	Old work (One or more coat applied @ 0.90 ltr/10 sqm).	100	sqm			
5.17	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade					
5.17.1	Old work (Two or more coats applied @ 1.43 ltr/ 10 sqm) over existing cement paint surface	100	sqm			

5.17.2	Old work (one or more coats applied @ 0.83 ltr/10 sqm).	100	sqm			
5.18	Providing and fixing double scaffolding system (cup lock type) on the exterior side, up to seven story height made with 40 mm dia M.S. tube 1.5 m centre to centre, horizontal & vertical tubes joining with cup & lock system with M.S. tubes, M.S. tube challies, M.S. clamps and M.S. staircase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for the required duration as approved and removing it thereafter .The scaffolding system shall be stiffened with bracings, runners, connection with the building etc wherever required for inspection of work at required locations with essential safety features for the workmen etc. complete as per directions and approval of Engineer-in-charge .The elevational area of the scaffolding shall be measured for payment purpose .The payment will be made once irrespective of duration of scaffolding.	200	sqm			
	Sub-Total					
6	DISMANTLING & DEMOLISHING					
6.1	Dismantling of cement concrete platform along with curtain walls and base concrete etc. including stacking of useful materials near the site and disposal of unserviceable materials within 50 meters lead :					
6.1.1	120 x 120 cm (outside to outside)	2	each			
6.1.2	210 x 120 cm (outside to outside)	2	each			
6.2	Dismantling aluminum/ Gypsum partitions, doors, windows, fixed glazing and false ceiling including disposal of unserviceable surplus material and stacking of serviceable material with in 50 meters lead as directed by Engineer-in-charge.	2	sqm			
6.3	Disposal of building rubbish / malba / Same as or 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.	3	cum			
	Sub-Total					
7	SANITARY INSTALLATIONS					
7.1	Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required :					

7.1.1	W.C. pan with ISI marked white solid plastic seat and lid	1	each			
7.2	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:					
7.2.1	White Vitreous China Wash basin size 630x450 mm with a pair of 15 mm C.P. brass pillar taps	1	each			
7.2.2	White Vitreous China Wash basin size 630x450 mm with a single 15 mm C.P. brass pillar tap	5	each			
7.2.3	White Vitreous China Surgeon type wash basin of size 660x460 mm with a pair of 15 mm C.P. brass pillar taps with elbow including operated levers	1	each			
7.2.4	White Vitreous China Surgeon type wash basin of size 660x460 mm with single 15 mm C.P. brass pillar taps with elbow operated levers ISi marked	1	each			
7.2.5	Stainless Steel AISI-304(18/8) Wash basin 530x345 mm with single 15 mm C.P. brass pillar tap	1	each			
7.3	Providing and fixing white vitreous china pedestal for wash basin completely recessed at the back for the reception of pipes and fittings.	1	each			
7.4	Providing and fixing Stainless Steel A ISi 304 (18/8) kitchen sink as per IS: 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :					
7.4.1	Kitchen sink with drain board					
7.4.1.1	510x1040 mm bowl depth 250 mm	1	each			
7.4.2	Kitchen sink without drain board					
7.4.2.1	610x510 mm bowl depth 200 mm	1	each			
7.5	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required :					
7.5.1	Size 450x300x150 mm	1	each			
7.5.2	Size 600x450x200 mm	1	each			
7.6	Providing and fixing P.V.C. low level flushing cistern with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete.					
7.6.1	10 litre capacity - White	5	each			
7.7	Providing and fixing solid plastic seat with lid for pedestal type W.C. pan complete :					

7.7.1	White solid plastic seat with lid	10	each			
7.8	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.					
7.8.1	Semi rigid pipe					
7.8.1.1	32 mm dia	15	each			
7.8.2	Flexible pipe					
7.8.2.1	32 mm dia	25	each			
7.9	Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing :					
7.9.1	Circular shape 450 mm dia	2	each			
7.9.2	Rectangular shape 453x357 mm	2	each			
7.9.3	Oval shape 450x350 mm (outer dimensions)	2	each			
7.9.4	Rectangular shape 1500x450 mm	2	each			
7.1	Providing and fixing toilet paper holder :					
7.10.1	C.P. brass	5	each			
7.10.2	Vitreous china	2	each			
7.11	Providing and fixing PTMT Waste Coupling for wash basin and sink, of approved quality and colour.					
7.11.1	Waste coupling 31 mm dia of 79 mm length and 62mm breadth weighing not less than 45 gms	10	each			
7.11.2	Waste coupling 38 mm dia of 83 mm length and 77mm breadth, weighing not less than 60 gms	5	each			
7.12	Providing and fixing PTMT Bottle Trap for Wash basin and sink.					
7.12.1	Bottle trap 31mm single piece moulded with height of 270 mm, effective length of tail pipe 260 mm from the centre of the waste coupling, 77 mm breadth with 25 mm minimum water seal, weighing not less than 260 gms	10	each			
7.12.2	Bottle trap 38 mm single piece moulded with height of 270 mm, effective length of tail pipe 260 mm from the centre of the waste coupling, 77 mm breadth with 25 mm minimum water seal, weighing not less than 263 gms	5	each			
7.13	Providing and fixing PTMT liquid soap container 109 mm wide, 125 mm high and 112 mm distance from wall of standard shape with bracket of the same materials with snap fittings of approved quality and colour, weighing not less than 105 gms.	10	each			

7.14	Providing and fixing PTMT towel ring trapezoidal shape 215 mm long, 200 mm wide with minimum distances of 37 mm from wall face with concealed fittings arrangement of approved quality and colour, weighing not less than 88 gms.	10	each			
7.15	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.					
7.15.1	450 mm long towel rail with total length of 495 mm, 78 mm wide and effective height of 88 mm, weighing not less than 170 gms	5	each			
7.16	Providing and fixing PTMT 15 mm Urinal spreader size 95x69x100 mm with 1/2" BSP thread and shapes, weighing not less than 60 gms.	5	each			
8	WATER SUPPLY					
8.1	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					
8.1.1	15 mm nominal outer dia Pipes	10	meter			
8.1.2	20 mm nominal outer dia Pipes	10	meter			
8.1.3	25 mm nominal outer dia Pipes	10	meter			
8.1.4	32 mm nominal outer dia Pipes	10	meter			
8.1.5	40 mm nominal outer dia Pipes	10	meter			
8.1.6	50 mm nominal outer dia Pipes	10	meter			
8.2	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.					
8.2.1	15 mm nominal outer dia Pipes	10	meter			
8.2.2	20 mm nominal outer dia Pipes	10	meter			
8.2.3	25 mm nominal outer dia Pipes	10	meter			
8.2.4	32 mm nominal outer dia Pipes	10	meter			

8.3	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.Internal work - Exposed on wall					
8.3.1	15 mm dia nominal bore	10	meter			
8.3.2	20 mm dia nominal bore	10	meter			
8.3.3	25 mm dia nominal bore	10	meter			
8.3.4	32 mm dia nominal bore	10	meter			
8.3.5	40 mm dia nominal bore	10	meter			
8.3.6	50 mm dia nominal bore	10	meter			
8.4	Providing and fixing G.I. Pipes complete with G.I. fittings and clamps, i/c making good the walls etc. concealed pipe, including painting with anti corrosive bitumastic paint, cutting chases and making good the wall :					
8.4.1	15 mm dia nominal bore	10	meter			
8.4.2	20 mm dia nominal bore	10	meter			
8.5	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. External work					
8.5.1	15 mm dia nominal bore	10	meter			
8.5.2	20 mm dia nominal bore	10	meter			
8.5.3	25 mm dia nominal bore	10	meter			
8.5.4	32 mm dia nominal bore	10	meter			
8.5.5	40 mm dia nominal bore	10	meter			
8.5.6	50 mm dia nominal bore	10	meter			
8.5.7	65 mm dia nominal bore	10	meter			
8.5.8	80 mm dia nominal bore	10	meter			
8.6	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 :					
8.6.1	25 to 40 mm nominal bore	5	each			
8.6.2	50 to 80 mm nominal bore	5	each			
8.7	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, ISi : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	2000	per liter			
8.8	Providing and fixing PTMT bib cock of approved quality and colour.					
8.8.1	15 mm nominal bore, 122mm long, weighing not less than 99 gms	5	each			
8.9	Providing and fixing PTMT pillar cock of approved quality and colour .					
8.9.1	15 mm nominal bore, 125 mm long foam flow, weighing not less than 120 gms	20	each			

8.1	Providing and fixing PTMT, push cock of approved quality and colour.					
8.10.1	15 mm nominal bore, 98 mm long, weighing not less than 75 gms	20	each			
8.10.2	15 mm nominal bore, 80 mm long, weighing not less than 46 gms	5	each			
8.11	Providing and fixing PTMT grating of approved quality and colour.					
8.11.1	Circular type					
8.11.1.1	100 mm nominal dia	15	each			
8.11.1.2	125 mm nominal dia with 25 mm waste hole	15	each			
8.12	Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements, weighing not less than 106 gms.	10	each			
9	ALUMINUM WORK					
9.1	Providing and fixing glazing in aluminum 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 aluminum snap beading shall be paid in basic item):					
9.1.1	With float glass panes of 5.50 mm thickness	20	sqm			
9.2	Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logo embossed on the body / plate with double spring mechanism and door weight upto 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge.					
9.2.1	With stainless steel cover plate minimum 1.25 mm thickness	5	each			
9.3	Filling the gap in between aluminum frame & adjacent RCC/ Brick/ Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete.					
9.3.1	Upto 5mm depth and 5 mm width	100	meter			

9.4	Providing and fixing stainless steel (SS 304 grade) adjustable friction windows stays of approved quality with necessary stainless steel screws etc. to the side hung windows as per direction of Engineer-in-charge complete.					
9.4.1	205 X 19 mm	5	each			
9.4.2	255 X 19 mm	2	each			
9.4.3	355 X 19 mm	2	each			
9.4.4	510 X 19 mm	5	each			
9.4.5	710 X 19 mm	5	each			
9.5	Providing and fixing 100mm brass locks (best make of approved quality) for aluminum doors including necessary cutting and making good etc. complete.	10	each			
9.6	Providing and fixing anodised aluminum 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 aluminum 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).	50	kg			
10	WATER PROOFING					
10.1	Providing and laying water proofing treatment on roofs of slabs by applying cement slurry mixed with water proofing cement compound consisting of applying: a) after surface preparation, first layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm. b) laying second layer of Fibre glass cloth when the first layer is still green. Overlaps of joints of fibre cloth should not be less than 10 cm. c) third layer of 1.5 mm thickness consisting of slurry of cement @ 1.289 kg/sqm mixed with water proofing cement compound @ 0.670 kg/sqm and coarse sand @ 1.289 kg/sqm. This will be allowed to air cure for 4 hours followed by water curing for 48 hours. The entire treatment will be taken upto 30 cm on parapet wall and tucked into groove in parapet all around. d) fourth and final layer of brick tiling with cement mortar (which will be paid for separately. For the purpose of measurement the entire treated surface will be measured.	5	sqm			

11	Providing and fixing clamps, desh faster,MS flat plates,,4mm dia MS wires,nuts & bolts for Strenthing in the frame work of false ceilling at any floor including providing and fixing "Arm strong" false ceiling with 600x600x15mm thick glass fiber accoustical tiles with durable tegular edging,with protective coating of back of tiles after removing old/damage false ceiling complete as per direction of Engineer In charge. (clamps, dash faster,MS plates,nuts &bolts shall be paid sepratly)					
11.1	Providing and fixing "Arm strong" or equivalent false ceiling of 600x600x15mm thick glass fiber accoustical tiles	80	sqm			
11.2	Providing and fixing armstrong pressure clips/clamps of required size	801	each			
11.3	Providing and fixing desh faster of size 75mm	150	each			
11.4	Providing and fixing M.S. flat plates of required shape and size	45	kg			
11.5	Providing and fixing nuts & bolts of required size	32	kg			
12	**SANITARY FIXTURES**					
12.1	Providing and fixing CP Brass Piller cock,15mm size,make: Prayag,Jal,plumber or equivalent.	20	No.			
12.2	Providing and fixing Single lever Basin Mixer with elbow action knob,15mm size,make: Prayag,Jal,plumber or equivlent.	20	each			
12.3	Providing and fixing wall mixer Telephonic Type with 'L' bend,15mm size,make: Prayag,Jal,plumber or equivlent.	5	each			
12.4	Providing and fixing SINGLE FLOW OVERHEAD SHOWER,15mm size,make: Prayag,Jal,plumber or equivlent.	5	each			
12.5	Providing and fixing HEALTH FUCET/BIDET SPRAY with 1 mtr.tube and hook ,15mm size,make: Prayag, Jal, plumber or equivlent.	20	each			
12.6	Providing and fixing JET SPRAY with 1.5 mtr.tube,15mm size,make: Prayag,Jal,plumber or equivlent.	50	each			
12.7	Providing and fixing PVC CONNECTION PIPE 450mm long ,15mm size,make: Prayag,Jal,plumber or equivlent.	150	each			
13	**SUBMERCIBLE PUMP REMOVING/LOWRING**					
13.1	Removing 50MM/40MM dia G.I pipe from existing borewell i/c submersible pump & cable with dismembering each pipe from socket with mechanical arrangement by Hydra and required all man power for the work complete	285.00	Feet			

13.2	Lowering of 50MM/40MM G.I pipe in bore well with cable etc with mechanical arrangement by HYDRA and require all man power to complete the work. Note: Repairing of Submersible pump will be paid separately as per actual.	285.00	Feet			
14	**Water Tank Cleaning Works**					
14.1	Cleaning of soft water tank, Domestic water tank, Flushing water tank and Fire tanks by scrubbing the peripheral wall surface floor and ceiling with suitable high pressure jet sprayer to remove all mineral/biological deposit including any micro organism, Silts sand clay etc. and by spraying with jet sprays chemicals like silver Nitrate/Hypochlorite/Potassium permanganate/loding/ Ethyl alcohol diluted to permissible limit, rinse the surface of tank with clean potable water and remove all wash water and sediments from all the surface with vacuum cleaner and section pumps and disinfectioning with ultra-violet rays the internal area, The process includes dewatering the balance left water in sumps over head tank by means of electrical pumps of suitable capacity before commencing cleaning of tank i/c marking the date of cleaning by Black Japan paints of visible size complete as per direction of Engineer-in-Charge (A) PVC/Ferro cement concrete/RCC Terrace tank in Hospital/College Buildings.					
14.1.1	For Capacity up to 1000 litre.	3.00	each			
14.1.2	For Capacity 1001 litre to 5000 litre tank.	51.00	each			
14.1.3	For Capacity 5001 litre to 10000 litre tank.	6.00	each			
14.1.4	For Capacity 10001 litre to 20000 litre tank.	12.00	each			
14.1.5	R.C.C. water storage tank from 20001 to 30000 litre capacity.	3.00	each			
14.1.6	R.C.C. water storage tanks from 30001 to 45000 litre capacity.	9.00	each			

15	Maintenance of sewerage, drainage system and desilting of gully traps etc.within the campus like opening/cleaning of choked sewer pipes, drains, manholes, gully traps, wash basins, sinks and other fittings and fixtures, etc. at all floors and vertical stacks of sewer pipes, rain water drainage pipes , rain water spout etc of all sizes to keep sewerage and drainage system functional including disposal of silt, malba, waste, garbage etc. to the authorized dumping ground complete including Regular cleaning of Drains, pipes, sewerage & Drain Line up to Municipal disposal points Gully traps, manholes to ensure that there is no blockage including maintaining minimum requisite T &P material required for cleaning / maintenance , manpower (Sewer man, sewer/Drain cleaner, Helper, & consumables such as washer, lead, M. seal, nut, dash fastener, lubricant, tools etc. Proper functioning of the plumbing system & maintaining the record for the same. Minimum 2 Sweepers with 2 Helper in general shift for day to day cleaning of chocked sewer line, Toilet, GT, manholes etc. Type of Complaint shall be treated as Minor/Medium or Major as decided by Engineer In Charge.					
15.1	Minor work					
15.1.1	cleaning of Minor drain choke by providing drain power/chemicals or by manually in any floor of building. Cleaning from wash basin/sink upto gully trap i.e. all drain/pipe line effluent rekced to disposal point i.e. upto gully trap shall be counted as one job.)	100	each			
15.2	Medium work					
15.2.1	Cleaning of manholes and sewer lines from gully trap to septic tank by mechanically/manually to remove the clogged drain of sludge, waste & rubbish material and disposal where permitted to the Municipal Corporation dumping places etc as per the direction of Engineer-in -Charge.					
15.3	Major Work					
15.3.1	cleaning of Chocked drain line/ serwer line/ Gully Trap/ manholes/sink/washbasin and other fittings at all floor and vertical stacks of drain/sewer line in all respect including cutting and making good the walls and floors where ever required.	20	each			

15.4	Cleaning of septic tank of the capacity by employing sewerage cleaning by mechanically including pouring/spreading kerosene atleast 5ltr.on top of sludge in the septic tank to avoid foul smell for the surrounding occupants. The kerosene remain spread inside the tank for atleast 30 minutes before start of cleaning. thereafter removing the decomposed sludge/suspended materials/night soil etc. inclusing dewatering of liquid material etc. cleaning the septic tank with fresh water and then filled with water and mixed cowdung of required quantity for digestioning function of the septic tank etc.complete and as directed by the engineer-in-charge.					
15.4.1	(a) Septic tank of size 5mx5mx5m	1	each			
16	**HORTICULTURE MAINTENANCE**					
16.1	Scope of work for horticulture operation includes plantation & maintenance of any type of existing grass, shrubs, trees, Watering of plants, trees i/c uprooting grass, weeds etc at a suitable interval by keeping skilled Malis for performing above activities i/c maintainn the plants by providing dump manure fertilizers, pesticides as per requirement of plants complete as per direction of Engineer in charge . (cost of pots, rose plants, grass/shrubs/trees,is payable separately) and their maintenance by deploying minimum 4 no. of experienced Malis and 01 head Mali for eight working hours daily and supplying all materials/khad/tools and plants in sufficient quantity required to properly maintain the horticulture.manpower shall be provided by the contractor as approved & direction of engineer in charge.(Payment shall be measure 1 mali for 31 day= 1 job)	60	per job			
16.2	Grassing with 'Doob' grass including watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn free from weeds and fit for mowing including supplying good earth if needed (the good earth shall be paid for separately).	500	sqm			
16.3	Providing, supplying, transplanting sapilings of various varieties in good/live condition with roots covered in good soil with polythene bags at various locations in the campus etc. complete as directed by the Client/Engineer and their maintenance for a period of one year.					
16.3.1	Shrubs/ Flower plant like rose, aglonima, cycis palm, fycus panda, golden duranta, or equivalent as approved & direction of engineer in charge.	200	Each			

16.3.2	Trees like PEPAL,SESHAM,GULMOHAR,BARGAD,DEVDAAR, NEEM (CURRY TREE),MEHANDI,KANER,CHAMPA,ARJUNA, SAAL,ASHOKA,ROYAL PALM, DATE PALM, AMALTAS or equivalent with average height 3 meters. as approved & direction of engineer in charge.	50	Each			
	ELECTRICAL WORKS					
	PROVIDING & FIXING OF FOLLOWING ACCESSORIES					
17	Wiring for twin control light point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit with 2 way modular switch ,Modular plate, suitable size GI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required	10	Point			
18	Wiring for light /power plug with 2X4sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit along with 1Nos. 4 sq.mm FRLS PVC insulated copper conductor single core cable for loop earthing as required	50	Meter			
19	Wiring for light /power plug with 4X4sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit alongwith 2Nos. 4 sq.mm FRLS PVC insulated copper conductor single core cable for loop earthing as required	50	Meter			
20	Wiring for circuit/submain wiring along with earth wire with the following size of FRLS PVC insulated copper conductor, single core cable in surface/recessed steel conduit as required.					
20.1	2 X 1.5 sq.mm + 1 X 1.5 sq.mm earth wire	80	Meter			
20.2	2 X 2.5 sq.mm + 1 X 2.5 sq.mm earth wire	80	Meter			
20.3	2 X 4 sq.mm + 1 X 4sq.mm earth wire	80	Meter			
20.4	2 X 6 sq.mm + 1 X 6 sq.mm earth wire	80	Meter			
20.5	2 X 16 sq.mm + 1 X 16 sq.mm earth wire	50	Meter			
20.6	4 X 4 sq.mm + 2 X 4 sq.mm earth wire	50	Meter			
20.7	4 X 6 sq.mm + 2 X 6 sq.mm earth wire	50	Meter			
20.8	4 X 10 sq.mm + 2 X 10 sq.mm earth wire	80	Meter			
20.9	4 X 16 sq.mm + 2 X 16 sq.mm earth wire	50	Meter			
21	Wiring for light point /fan point /exhaust fan point /call bell point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required					

21.1	Group A	20	Point			
21.2	Group C	20	Point			
23	Wiring for twin control light point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, 2 way modular switch ,modular plate , suitable GI box and earthling the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required	10	Point			
24	Wiring for light /power plug with 2X4sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, along with 1No 4 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required	30	Meter			
25	Wiring for light /power plug with 4X4sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, along with 2No 4 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required	20	Meter			
26	Wiring for circuit/sub-main wiring along with earth wire with the following size of FRLS PVC insulated copper conductor, single core cable in surface/recessed PVC conduit as required.					
26.1	2 X 1.5 sq.mm + 1 X 1.5 sq.mm earth wire	100	Meter			
26.2	2 X 2.5 sq.mm + 1 X 2.5 sq.mm earth wire	100	Meter			
26.3	2 X 4 sq.mm + 1 X 4sq.mm earth wire	100	Meter			
26.4	2 X 6 sq.mm + 1 X 6 sq.mm earth wire	100	Meter			
26.5	2 X 16 sq.mm + 1 X 16 sq.mm earth wire	50	Meter			
26.6	4 X 4 sq.mm + 2 X 4 sq.mm earth wire	50	Meter			
26.7	4 X 6 sq.mm + 2 X 6 sq.mm earth wire	50	Meter			
26.8	4 X 10 sq.mm + 2 X 10 sq.mm earth wire	100	Meter			
26.9	4 X 16 sq.mm + 2 X 16 sq.mm earth wire	50	Meter			
27	Rewiring for light point /fan point /exhaust fan point /call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable and 1.5 sq.mm FRLS PVC insulated copper conductor single core cable as earth wire in existing surface/recessed steel conduit including dismantling etc as required					
27.1	Group A	45	Point			
27.2	Group C	45	Point			
28	Rewiring for twin control light point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable and 1.5 sq.mm FRLS PVC insulated copper conductor single core cable as earth wire in existing surface/recessed steel conduit including dismantling etc as required.	25	Point			

29	Supplying and drawing following size of FRLS PVC insulated copper conductor, single core cable in the existing surface/recessed steel/PVC conduit as required.					
29.1	1 x 1.5 sq.mm	50	Meter			
29.2	2 x 1.5 sq.mm	150	Meter			
29.3	4 x 1.5 sq.mm	50	Meter			
29.4	2 x 2.5 sq.mm	100	Meter			
29.5	3 x 2.5 sq.mm	100	Meter			
29.6	2 x 4 sq.mm	200	Meter			
29.7	4 x 4 sq.mm	150	Meter			
29.8	2 x 6 sq.mm	130	Meter			
29.9	4 x 6 sq.mm	130	Meter			
30	Providing and Fixing following size of Steel Conduit along with accessories in surface/recessed including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.					
30.1	25mm	100	Meter			
30.2	32mm	100	Meter			
31	Providing and Fixing following size of PVC Conduit along with accessories in surface/recessed including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.					
31.1	25mm	100	Meter			
31.2	32mm	100	Meter			
32	Supplying & Fixing following size/modules, GI box along with modular base & cover plate for modular switches in surface/recess etc as required.					
32.1	3 Module (100mm X 75mm)	50	Each			
32.2	6 Module (200mm X 75mm)	15	Each			
32.3	8 Module (125mm X 125mm)	5	Each			
33	Supplying & Fixing following size/modules, GI box for modular switches & fixing the existing switch, Socket, modular base & cover plate in surface/recess etc as required.					
33.1	3 Module (100mm X 75mm)	20	Each			
33.2	6 Module (200mm X 75mm)	10	Each			
33.3	8 Module (125mm X 125mm)	5	Each			
34	Erection of wall/ Bracket /Ceiling Fitting of all sizes and shape containing up to two GLS lamps per , complete fitting with all accessories including connection etc.	30	Each			

35	Installation, testing and commissioning of ceiling fan, including wiring the down rods of standard length (up to 30 cm) with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable etc. as required.	5	Each			
36	Numbering of ceiling fan/ exhaust fan/ fluorescent fittings as required.	50	Each			
37	Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required.					
37.1	Up to 450 mm sweep	10	Each			
37.2	510 mm sweep	10	Each			
38	Providing and Fixing following way prewired TP&N MCB distribution board of steel sheet for 415 volts on surface/ recess complete with loose wire box, terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FRLS PVC insulated copper conductor up to terminal blocks, tinned copper bus bar, neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthling etc. as required.(But without MCB/ RCCB/ Isolator)					
38.1	4 way (4 + 12), Double door	5	Each			
38.2	6 way (4 + 18), Double door	5	Each			
38.3	8 way (4 + 24), Double door	10	Each			
38.4	12 way (4 + 36), Double door	10	Each			
39	Providing and Fixing 5 Amp to 32 Amp Rating 240V C curve MCB suitable for inductive load of following poles in the existing MCB DB complete with connections testing & commissioning etc as required.					
39.1	Single Pole	75	Each			
39.2	Single Pole & Neutral	60	Each			
39.3	Double Pole	10	Each			
39.4	Triple Pole	5	Each			
39.5	Triple Pole & Neutral	65	Each			
40	Providing and Fixing following rating 2Pole/240V isolator in the existing MCB DB complete with connections testing & commissioning etc as required.					
41.1	40 amps	20	Each			
41.2	63 amps	20	Each			
42	Providing and Fixing following rating 4Pole/415V isolator in the existing MCB DB complete with connections testing & commissioning etc as required.					
42.1	40 amps	25	Each			
42.2	63 amps	30	Each			
42.3	100 amps	25	Each			

43	Providing and Fixing 32 Amp/4Pole/415V/ 30mA-300mA-RCCB in the existing MCB DB complete with connections testing & commissioning etc as required.	50	Each			
44	Providing and Fixing 63 Amp/4Pole/415V/ 30mA-300mA-RCCB in the existing MCB DB complete with connections testing & commissioning etc as required.	50	Each			
45	Providing and Fixing DP Sheet steel enclose on surface /recess along with 25/32amps 240 volts "C' curve DP MCB complete with connection, testing and commissioning as required.	45	Each			
46	Providing and Fixing TP Sheet steel enclose on surface /recess along with 16/25/32amps 415 volts "C' curve TP MCB complete with connection, testing and commissioning as required.	25	Each			
47	Providing and Fixing 20A, 240Volt, SPN industrial type, Shoket outlet with 2 pole and earth metal encloser Plug top along with 20 amps C curve SP MCB in sheet steel encloser on surface or in recess with chained metal cover for the socket outlet and complete with connection, testing and commissioning as required.	25	Each			
48	Providing and Fixing 20A, 415 Volt, TPN industrial type, Shoket outlet with 4 pole and earth metal encloser Plug top along with 20 amps C curve TP MCB in sheet steel encloser on surface or in recess with chained metal cover for the socket outlet and complete with connection, testing and commissioning as required.	15	Each			
49	Providing and Fixing 30A, 415 Volt, TPN industrial type, Shoket outlet with 4 pole and earth metal encloser Plug top along with 30 amps C curve TP MCB in sheet steel encloser on surface or in recess with chained metal cover for the socket outlet and complete with connection, testing and commissioning as required.	20	Each			
49.1	Providing and Fixing Single door DB-4way	6	Each			
49.2	Providing and Fixing Single door DB-6way	6	Each			
49.3	Providing and Fixing Single door DB-8way	5	Each			
49.4	Providing and Fixing Single door DB-12way	5	Each			
50	Providing and Fixing S.P. 5/6 Amp Switch (Modular Type)	90	Each			
51	Providing and Fixing S.P. 15/16 Amp switch (Modular Type)	90	Each			
52	Providing and Fixing 3 pin 5/6 Amp Socket outlet (Modular Type)	90	Each			
53	Providing and Fixing 6 pin 15/16 Amp Socket outlet (Modular Type)	70	Each			
54	Providing and Fixing Ceiling Fan Regulator (stepped type electronic)	70	Each			

55	Providing and Fixing following size/modules, PVC box along with modular base & cover plate for modular switches in surface/recess etc as required.					
55.1	3 Module (100mm X 75mm)	50	Each			
55.2	6 Module (200mm X 75mm)	15	Each			
55.3	8 Module (125mm X 125mm)	5	Each			
56	Providing and Fixing following size/modules, PVC box for modular switches & fixing the existing switch, Socket, modular base & cover plate in surface/recess etc as required.					
56.1	3 Module (100mm X 75mm)	40	Each			
56.2	6 Module (200mm X 75mm)	10	Each			
56.3	8 Module (125mm X 125mm)	5	Each			
57	Supplying & Wiring for circuit/sub main wiring along with earth wire with the following size of 1.1kV Grade FRLS PVC insulated copper conductor, single core multi strand cable in surface / recessed medium class ISI marked, 25mm Casing Capping as required.					
57.1	2 X 2.5 sq.mm + 1 X 2.5 sq.mm earth wire	20	Meter			
57.2	2 X 4 sq.mm + 1 X 4 sq.mm earth wire	50	Meter			
57.3	4 X 4 sq.mm + 2 X 4 sq.mm earth wire	30	Meter			
58	Supplying & Wiring for circuit/sub main wiring along with earth wire with the following size of 1.1kV Grade FRLS PVC insulated copper conductor, single core multi strand cable in surface / recessed medium class as per IS standards, suitable size, metallic flexible conduit as required.					
58.1	2 X 2.5 sq.mm + 1 X 2.5 sq.mm earth wire	5	Meter			
58.2	2 X 4 sq.mm + 1 X 4 sq.mm earth wire	10	Meter			
58.3	4 X 4 sq.mm + 2 X 4 sq.mm earth wire	20	Meter			
59	Mirror optics modular recessed mounting Ultra slim lamp & Choke of 2x28W of Phillips TBS-288/2x TL5-28W HF G2 BL IN or Equivalent.					
59.1	Providing and Fixing Lamp (4Pin)	180	Each			
59.2	Providing and Fixing Choke (7/8Pin)	180	Each			
60	Mirror optics modular recessed mounting Ultra slim lamp & Choke of 2x14W of Phillips TBS-288/2x TL5-14W HF G2 BL IN or Equivalent.					
60.1	Providing and Fixing Lamp	60	Each			
60.2	Providing and Fixing Choke	30	Each			
61	Micro optics modular ceiling suspended surface mounting lamps & chokes Same as or similar to Phillips TPH 824/214 d8 DI HF or equivalent with 2x14W TL5 fluorescent lamp with PF Capacitor (>0.98 ;ag) & (THD < 10%).					
61.1	Providing and Fixing Lamp	220	Each			
61.2	Providing and Fixing Choke	80	Each			

62	Micro optics modular ceiling suspended surface mounting lamps & chokes Same as or similar to Phillips TPH 824/228 d8 DI HF or equivalent with 2x28W TL5 fluorescent lamp with PF Capacitor (>0.98 Lag) & (THD < 10%).					
62.1	Providing and Fixing Lamp	380	Each			
62.2	Providing and Fixing Choke (7/8Pin)	80	Each			
63	Providing and Fixing of BOX/BATTEN type for surface mounting on wall or ceiling lighting fluorescent lamp & choke Same as or similar to Phillips TMS 122/128E HF or equivalent with 1x28W TL5 having PF Capacitor (>0.98 Lag) & (THD < 10%).					
63.1	Providing and Fixing Lamp	200	Each			
63.2	Providing and Fixing Choke	170	Each			
64	Providing and Fixing of BOX/BATTEN type for surface mounting on wall or ceiling lighting fluorescent lamp & choke Same as or similar to Phillips TMS 122/128E HF or equivalent with 2x28W TL5 having PF Capacitor (>0.98 Lag) & (THD < 10%).					
64.1	Providing and Fixing Lamp	20	Each			
64.2	Providing and Fixing Choke	5	Each			
65	Providing and Fixing of BOX/BATTEN type for surface mounting on wall or ceiling lighting fluorescent lamp & choke Same as or similar to Phillips TMS 122/128B HF or equivalent with 1x28W TL5 having PF Capacitor (>0.98 Lag) & (THD < 10%).					
65.1	Providing and Fixing Lamp	100	Each			
65.2	Providing and Fixing Choke	50	Each			
66	Providing and Fixing of Surface mounting CFL mirror optic lighting fluorescent lamp & choke Same as or similar to Philips FCS 518/211 or equivalent with 2x11W PL-L-FL with power factor capacitor, copper ballast.					
66.1	Providing and Fixing Lamp (2/4Pin)	100	Each			
66.2	Providing and Fixing Choke	50	Each			
67	Surface mounting mirror lighting CFL fluorescent lamp & choke Same as or similar to Crompton Greaves (or equivalent from approved makes) with 1x11W with capacitor, copper bound low loss polyester filled ballast.					
67.1	Providing and Fixing Lamp (2/4Pin)	120	Each			
67.2	Providing and Fixing Choke	70	Each			
68	Heavy duty bulkhead type lighting CFL lamp & choke Same as or similar to Philips FXC 101 complete with 1 x 9W PL-S or Equivalent.					
68.1	Providing and Fixing Lamp	50	Each			
68.2	Providing and Fixing Choke	10	Each			

69	Hospital bed lighting Quadra optics Surface mounting Indirect glare FRLSee Same as or similar to Crompton's CHL218LSB or equivalent of 2x18W FTL fluorescent (For reading)+ 1 x 5 W DF (for night) lamp & choke.					
69.1	Providing and Fixing Lamp	40	Each			
69.2	Providing and Fixing Choke	5	Each			
70	Wall mounted bracket light fixture Same as or similar to Havells LUHKL02160099 of 8 W CFL lamp or Equivalent, with Heat Resistance OPAL cover.					
70.1	Providing and Fixing Lamp	60	Each			
70.2	Providing and Fixing Holder	10	Each			
71	Providing and Fixing of Wall/Ceiling mounting type emergency lights Same as or similar to MK's emergency battery model CA8/M/3F (three hours) with 8 W T5 FTL lamp.					
71.1	Providing and Fixing Battery	20	Each			
72	Circular recess mounting low depth (Ht only 100 mm) down lighting lamp Same as or similar to Philips FBH 145/2 x 18 L HF 2 Nos. 1x18 W(P1)lamp & FBH 145/1X18 (P2)					
72.1	Providing and Fixing Lamp 1 (4Pin)	100	Each			
72.2	Providing and Fixing Lamp 2 (2Pin)	200	Each			
72.3	Providing and Fixing Choke (2/4 Pin)	180	Each			
73	Circular modular surface mounting (1x22 W) integrated electronic crown circular lamp Havells & equivalent.					
73.1	Providing and Fixing Lamp (T6 22W HL-G12 6500k)	50	Each			
73.2	Providing and Fixing Choke (LHBC03122073)	20	Each			
74	Mirror optics modular recessed mounting 2X36W PL-L					
74.1	Providing and Fixing Lamp	20	Each			
74.2	Providing and Fixing Choke	50	Each			
75	Die casted housing power quoted lamp holder and gear Prismatic High bay Luminaries Same as or similar to Philips HPK 225-1 x CMD-ET - 150 WPR or equivalent with 1 No.CMD-TT-150W lamp (HIGHBAY)					
75.1	Providing and Fixing Lamp	10	Each			
75.2	Providing and Fixing Ballast	5	Each			
75.3	Providing and Fixing Holder	3	Each			
76	Philips Sonara HPS360 1xMHNTD70W GR (GATE LIGHT)					
76.1	Providing and Fixing Lamp	10	Each			
76.2	Providing and Fixing Ballast	20	Each			
76.3	Providing and Fixing Igniter	5	Each			
77	CEILING FAN (1200MM SWEEP)-BAJAJ/CGL or Equivalent Make					

77.1	Providing and Fixing Capacitor 2.5MFD	50	Each			
77.2	Providing and Fixing Ball Bearing (Double Jet-2Nos -6201/6202)	40	Each			
77.3	Providing and Fixing Fan Rewinding (36Guage Cu Winding)	40	Each			
77.4	Providing and Fixing Shackle Insulator	20	Each			
77.5	Providing and Fixing Shaft (New or Repairing)	45	Each			
78	CEILING FAN (1400MM SWEEP)-BAJAJ/CGL or Equivalent Make					
78.1	Providing and Fixing Capacitor 3MFD	35	Each			
78.2	Providing and Fixing Ball Bearing (Double Jet-2Nos -6201/6202)	25	Each			
78.3	Providing and Fixing Fan Rewinding (30-38Guage Cu Winding)	15	Each			
78.4	Providing and Fixing Shackle Insulator	7	Each			
78.5	Providing and Fixing Shaft (New or Repairing)	10	Each			
79	MOTOR- 1.5HP, Head - 30 mtrs					
79.1	Providing and Fixing Motor Rewinding (25-36Guage Cu Winding)	22	Each			
79.2	Providing and Fixing Capacitor 36MFD	20	Each			
79.3	Providing and Fixing Ball Bearing (Double Jet-2Nos - 6203)	11	Each			
79.4	Providing and Fixing Oil Sill (50 No. Open or Close Type)	27	Each			
79.5	Providing and Fixing Cooling Fan	10	Each			
79.6	Providing and Fixing Fan Cover	7	Each			
79.7	Providing and Fixing Impeller & Key	15	Each			
80	EXHAUST FAN					
80.1	a) Single phase 300 mm diameter, 6 pole,900rpm Capacitor start. (Heavy duty).					
80.1.1	Providing and Fixing Capacitor (4MFD)	10	Each			
80.1.2	Providing and Fixing Fan Rewinding (25-32Guage Cu Winding)	8	Each			
80.1.3	Providing and Fixing Ball Bearing (Double Jet-2Nos -6202)	8	Each			
80.1.4	Providing and Fixing Shaft (New or Repairing)	4	Each			
80.2	b) Single phase, 450 mm diameter, 4 pole, 1500 rpm Capacitor start (Heavy duty).					
80.2.1	Providing and Fixing Capacitor (6MFD)	10	Each			
80.2.2	Providing and Fixing Fan Rewinding (25-32Guage Cu Winding)	8	Each			
80.2.3	Providing and Fixing Ball Bearing (Double Jet-2Nos -6202)	8	Each			
80.2.4	Providing and Fixing Shaft (New or Repairing)	5	Each			
81	Wall Mounted Bracket Fan of 600 mm sweep					

81.1	Providing and Fixing Bush or Ball bearing (Double Jet-2Nos -6201,6000)	4	Each			
81.2	Providing and Fixing Capacitor 2.5MFD	4	Each			
81.3	Providing and Fixing Shaft	4	Each			
82	High Mast System 16 & 20 Meter (6x2 luminaries)-Bajaj Make BGENF-22.					
82.1	Providing and Fixing 2 x 400 watt HID Tubular lamp.	40	Each			
82.2	Providing and Fixing Lamp Holder	10	Each			
82.3	Providing and Fixing Igniter	5	Each			
82.4	Providing and Fixing Ballast	5	Each			
82.5	Providing and Fixing Contactor 32A	10	Each			
82.6	Providing and Fixing 42 MFD Condenser	10	Each			
82.7	Providing and Fixing Timer	10	Each			
83	STREET LIGHT (6 meter) Phillips Make SGP402					
83.1	Providing and Fixing SONT - 150 Watt.	10	Each			
83.2	Providing and Fixing 20 MFD Condenser	6	Each			
83.3	Providing and Fixing Lamp holder	15	Each			
83.4	Providing and Fixing Ballast	6	Each			
84	STREET LIGHT (10 meter) Phillips Make SGP402					
84.1	Providing and Fixing CDMTT- 250 Watt.	100	Each			
84.2	Providing and Fixing 33 MFD Condenser	10	Each			
84.3	Providing and Fixing Lamp holder	10	Each			
84.4	Providing and Fixing Ballast	40	Each			
84.5	Providing and Fixing Igniter	15	Each			
84.6	Providing and Fixing Heat resistant toughened clear glass cover	5	Each			
85	Providing and Fixing SP MCB (6/16/32A 240V C-CURVE)	30	Each			
86	Providing and Fixing 4PMCB (32/40/63A 415V B/C CURVE)	10	Each			
87	Providing and Fixing TPNMCB Or RCCB (30mA-300mA) (32/40/63A 415V B/C CURVE)	10	Each			
88	Providing and Fixing 25 Amp MCB and 6Pin Socket outlet (Modular Type)	10	Each			
	PROVIDING OF FOLLOWING ELECTRICAL ACCESSORIES					
89	Providing 40 Amp/ 4 Pole 415V/30-300mA-RCCB	20	Each			
90	Providing 63 Amp/ 4 Pole 415V/30-300 mA-RCCB	20	Each			
89A	Providing 40 Amp/ 4 Pole 415V/30-300mA-RCBO	20	Each			
90A	Providing 63 Amp/ 4 Pole 415V/30-300 mA-RCCB	20	Each			
91	Providing S.P. 5/6 Amp Switch (Modular Type)	110	Each			
92	Providing S.P. 15/16 Amp switch (Modular Type)	100	Each			
93	Providing 3 pin 5/6 Amp Socket outlet (Modular Type)	100	Each			
94	Providing 6 pin 15/16 Amp Socket outlet (Modular Type)	100	Each			

95	Providing 1.5 sq mm FRLS PVC copper wire (Havells, Polycab)	1500	Per mt			
96	Providing 2.5 sq mm FRLS PVC copper wire (Havells, Polycab)	1800	Per mt			
97	Providing 4 sq mm FRLS PVC Copper wire (Havells, Polycab) R,Y,B,G,blk. 1.1 KV Grade	3700	Per mt			
98	Providing 6 sq mm FRLS PVC Copper wire (Havells, Polycab) R,Y,B,G,blk. 1.1 KV Grade	1000	Per mt			
99	Providing Ceiling Fan Regulator (stepped type electronic)	35	Each			
100	Providing 6 Amp to 32 Amp Rating , SP MCB C curve 10kA breaking capacity	60	Each			
101	Providing 6 Amp to 32 Amp Rating , TPN MCB C curve 10kA breaking capacity	30	Each			
102	Providing following dia size of steel conduit ISI marked as required.					
102.1	20 mm	40	Per mt			
102.2	25 mm	30	Per mt			
103	Providing following dia size medium class of PVC conduit ISI marked as required.					
103.1	20 mm	80	Per mt			
103.2	25 mm	50	Per mt			
104	Providing following size of PVC Casing Capping ISI marked as required.					
104.1	20 mm	50	Per mt			
104.2	25 mm	50	Per mt			
104.3	32 mm	40	Per mt			
104.4	38 mm	20	Per mt			
105	Accessories for steel conduit					
105.1	20mm inspection/ solid bends	60	Each			
105.2	25mm inspection/ solid bends	60	Each			
105.3	32mm inspection/ solid bends	60	Each			
105.4	20mm socket	60	Each			
105.5	25mm socket	60	Each			
105.6	32mm socket	60	Each			
105.7	20mm iron staples/ saddles/ screws	100	Each			
105.8	25mm iron staples/ saddles/ screws	100	Each			
105.9	32mm iron staples/ saddles/ screws	100	Each			
106	Accessories for PVC conduit					
106.1	20 mm PVC Bends	60	Each			
106.2	25 mm PVC Bends	60	Each			

106.3	32 mm PVC Bends	60	Each			
106.4	20 mm PVC Coupler	60	Each			
106.5	25 mm PVC Coupler	60	Each			
106.6	32 mm PVC Coupler	60	Each			
106.7	20 mm iron staples/ saddles/ screws	100	Each			
106.8	25 mm iron staples/ saddles/ screws	100	Each			
106.9	32 mm iron staples/ saddles/ screws	100	Each			
107	Aluminum Lugs					
107.1	Lugs for 1.5 sq.mm wire	200	Each			
107.2	Lugs for 2.5 sq.mm wire	200	Each			
107.3	Lugs for 4.0 sq.mm wire	200	Each			
107.4	Lugs for 6.0 sq.mm wire	120	Each			
107.5	Lugs for 10.0 sq.mm wire	100	Each			
107.6	Lugs for 16.0 sq.mm wire	100	Each			
107.7	Lugs for 25.0 sq.mm wire	80	Each			
108	Terminal block Connector 6 Amp. Up to 32 Amp. Single pole					
108.1	Red phase	100	Each			
108.2	Yellow phase	100	Each			
108.3	Blue phase	100	Each			
108.4	Black (Neutral) with screw	100	Each			
108.5	Neutral link plate for TB Connector	100	Each			
109	Providing following Modular GI Box as required.					
109.1	Modular GI box 3 Module	60	Each			
109.2	Modular GI box 6 Module	40	Each			
109.3	Modular GI box 8 Module	30	Each			
109.4	Modular GI box 12 Module	20	Each			
110	Providing following Modular PVC Box as required.					
110.1	Modular PVC Box 3 Way	70	Each			
110.2	Modular PVC Box 6 Way	50	Each			
110.3	Modular PVC Box 8 Way	10	Each			
110.4	Modular PVC Box 12 Way	10	Each			
111	Providing 3 Watt LED Same as or similar to Havells Make 330lumens withstand voltage fluctuation from 100-300V AC Cool day light 6500K, Type-B22	200	Each			
112	Disposal (to be taken by agency) of unserviceable material received for day to day maintenance against payment as quoted by the agency.					
	Civil/Electrical Credit/Damaged Items					
112.1	Bib Cock/Pillar Cock/Basin Mixture/other brass items	50	each	(-)		(-)
112.2	G.I.pipes dia. 15mm to 25 mm and above	50	kg	(-)		(-)
112.3	Wooden Door	2	each	(-)		(-)
112.4	Aluminum/ fixtures fittings/accessories i.e. tower bolt, hinges, aldrop, handles, Windows Electrical fittings etc.	10	kg	(-)		(-)

113	Disposal (to be taken by agency) of unserviceable material received for day to day maintenance against payment as quoted by the agency.					
	Electrical Credit/Damaged Items					
113.1	2X36 W, 2X28 W Electronic chokes	60.00	each	(-)		(-)
113.2	2x9 to18 W Electronic choke	95.00	each	(-)		(-)
113.3	22 W Electronic choke	5.00	each	(-)		(-)
113.4	70 W Copper Ballast	5.00	each	(-)		(-)
113.5	150 W Copper Ballast	10.00	each	(-)		(-)
113.6	250 W Copper Ballast	25.00	each	(-)		(-)
113.7	400 W Copper Ballast	15.00	each	(-)		(-)
113.8	Copper conductor/CEILING FAN/Wall Fan/Motor Copper Winding etc	50.00	kg	(-)		(-)
113.9	All defected item made by MS like Fan Bush/Ball bearing/ Shaft /Impeller etc	20.00	kg	(-)		(-)

Total Amount in Word and Figure

(Signature of Agency)

(Superintending Engineer)
AIIMS Raipur