

**GOVERNMENT OF INDIA
CENTRAL PUBLIC WORKS DEPARTMENT**

NOTICE INVITING e-TENDER

NIT NO:- 17/EE/MUMBAI-V/2026-27

Press notice

The Executive Engineer, Mumbai V, CPWD, Nishtha Bhawan, 3rd Floor Mumbai-20 invites on behalf of President of India online percentage rate in **single bid system** from approved and eligible contractors of CPWD enlisted in appropriate class for following work:

Name of Work: Annual repair and Maintenance of residential and non-residential building at IIPS Campus, Deonar Mumbai during 2026-27.

Estimated Cost: - **Rs. 41,86,163/-**

Earnest money: - **Rs. 83,723/-**

Time of completion: - **12(Twelve) Months**

Last time & date of submission of Bid at 03.00 P.M. on 22.07.2026

The bid forms and other details can be obtained from the website www.cpwd.gov.in or etender.cpwd.gov.in. The Press Notice is also available on www.eprocure.gov.in.

Note: Applicants are advised to keep visiting the above-mentioned web-sites from time to time (till the deadline for bid submission) for any updates in respect of the tender documents, if any. Failure to do so shall not absolve the applicant of his liabilities to submit the applications complete in all respect including updated thereof, if any. An incomplete application may be liable for rejection.

Assistant Engineer (P)
Mumbai-V, CPWD, Mumbai.

Executive Engineer
Mumbai-V, CPWD, Mumbai.

NAME OF WORK: Annual repair and Maintenance of residential and non-residential building at IPS Campus, Deonar Mumbai during 2026-27.

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This NIT containing page 01 to 104 approved for **Rs. 41,86,163/- (Rs. Forty One Lakhs Eighty Six Thousand One Hundred Sixty Three only)**

ASSISTANT ENGINEER (P)
MUMBAI-V, CPWD, MUMBAI-20

EXECUTIVE ENGINEER
MUMBAI-V, CPWD, MUMBAI-20

Central Public Works Department

NIT NO: - 17/EE/MUMBAI-V/2026-27

Name of Work: Annual repair and Maintenance of residential and non-residential building at IIPS Campus, Deonar Mumbai during 2026-27.

PART A

**O/o EXECUTIVE ENGINEER, MUMBAI-V
CENTRAL PUBLIC WORKS DEPARTMENT**

**INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR e-TENDERING FORMING
PART OF BID DOCUMENT AND TO BE POSTED ON WEBSITE**

(Applicable for inviting open bids)

The **Executive Engineer, MUMBAI - V**, CPWD, Nishtha Bhawan, 3rd Floor, Mumbai-20 (Phone Number 022-20823036, email ID ee-mumbai5@gmail.com) on behalf of the President of India invites online percentage rate in Single bid from approved and eligible Contractor of CPWD in appropriate class for the following work.

Sr.no.	NIT No.	Name of Work and location	Estimated cost put to bid	Earnest money	Standard Period of completion of work (in Months)	Last date and time of online submission of bid, Copy of receipt of deposition of original EMD and other documents as specified in the bid	Date & Time of opening of Financial Bid
1	17/EE/MUMBAI-V/2026-27	Annual repair and Maintenance of residential and non-residential building at IIPS Campus, Deonar Mumbai during 2026-27.	Rs. 41,86,163/-	Rs. 83,723/-	TWELVE MONTHS	22-07-2026 Up to 03.00 p.m.	22-07-2026 At 03:30 p.m.

- The intending bidders 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.
- Information and instructions for bidders posted in website shall form part of bid document.
- The bid document consisting of plans, specification, the schedule of quantity of various type of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website <https://etender.cpwd.gov.in> or www.cpwd.gov.in free of cost.
- But the bid can only be submitted after **deposition of original EMD either in the office of Executive Engineer inviting bids or Division office of any Executive Engineer, CPWD within the period of bid submission** and uploading the mandatory scanned documents such as Insurance Surety Bonds, Account Payee Demand Draft or Banker's Cheque or Fixed Deposit Receipts or / and Bank Guarantee including e-Bank Guarantee (for balance amount as prescribed) from of any of the Commercial Bank towards EMD in favour of **(Executive Engineer, MCD-VI, CPWD, Mumbai)**, receipt of deposition of original EMD to Division office of any Executive Engineer (including NIT issuing EE/AE), CPWD and other documents as specified.

5. Those contractors, who are not registered on the Website mentioned above or have not updated their profile on the website mentioned above, are required to get registered / update their profile beforehand. The necessary training materials including the videos with step to step process are available on download section of <https://etender.cpwd.gov.in>
6. The intending bidder must have valid class-III digital signature certificate with encryption key (combo type) to perform any operations / transactions on the e-tendering portal / website and the bidder should download and install the emsigner on their system as per instructions available on download section of <https://etender.cpwd.gov.in>
7. On opening date, the contractor can login and see the bid opening process. After opening of bids, he will receive the competitor bid sheets.
8. Contractor can upload documents in the form of JPG format and PDF format.
9. Bidder should ensure that the document uploaded is legible and full documents page is properly scanned.
10. Contractor must ensure to quote his percentage rate (above / below) in the attached schedules. However, if a tenderer does not quote any percentage above/below on the total amount of the tender or any section / sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.
11. Contractor must ensure to quote rate in the prescribed column(s) meant for quoting rate in figures appears in yellow colour and the moment rate is entered, it turns sky blue.

In addition to this while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0" Therefore if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" Zero.
However, if a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section / sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.
12. The department reserves the right to reject any prospective application without assigning any reason and to restrict the list of qualified contractors to any number deemed suitable by it, if too many bids are received satisfying the laid down criterion.
13. The enlisted contractor will not be allowed to participate in tendering process without uploading the certificate of ERP training Issued through LMS (Learning Management System) in ERP.
14. The bid submitted shall become invalid if:
 - (i) The bidder is found ineligible.
 - (ii) The bidder does not upload scanned copies of all the documents stipulated in the bid document.
 - (iii) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest bidder in the office of tender Opening Authority.

- (iv) If a tenderer quotes nil rates against each item in item rate tender or does not quote any Percentage above / below on the total amount of the tender or any section / sub head in Percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tender.

15. List of Documents to be uploaded within the period of tender submission:

1. **Earnest money** in the form of Insurance Surety Bonds / Account Payee Demand Draft / Fixed Deposit Receipt / Banker's Cheque / Bank Guarantee (for Balance amount as prescribed) from any of the Commercial Bank **against EMD draw in in favour of Executive Engineer, MCD-VI, CPWD, Mumbai.**
2. **Enlistment order** of the Contractor of CPWD in appropriate Class & Category.
3. **Copy of receipt** for deposition of original EMD issued from Division Office of any Executive Engineer (including NIT issuing EE / AE), CPWD.
4. **GST Registration Certificate** of the state in which the work is to be taken up if already obtained by the bidder.

If the bidder has not obtained GST registration as applicable, then he shall scan and upload following undertaking on his letterhead along with other bid documents.

"If work is awarded to me, I/We shall obtain GST registration Certificate as applicable, within one month from the date of receipt of award letter or before release of any payment by CPWD, whichever is earlier, failing which I/We shall be responsible for any delay in payments which will be due towards me/us on a/c of the work executed and/or for any action taken by CPWD or GST department in this regard."

5. Contractor is required to submit ERP (Enterprise Resource Planning) Training Certificate (As per DG/Enlit.Rules-2023/10 dated 22.04.2024) in the name of the proprietor / agency / authorized representative issued from CPWD Regional Training Institute / by the Competent Authority of CPWD.
6. **Undertaking on Structural Stability and Soundness** as per prescribed format Form "F-1 (Registration of Firm/Company which is more than 25 years old) for F-2 (Registration of firm/Company which is less than 25 years old) on a Non-Judicial Stamp Paper of Rs.200.

The tenders shall be opened of only those Agencies who will upload tender and scanned documents as above.

Executive Engineer,
MUMBAI-V,
CPWD, Mumbai-20.

**GOVERNMENT OF INDIA
CENTRAL PUBLIC WORKS DEPARTMENT
NOTICE INVITING TENDER**

1.0 Online Percentage rate bids in single bid are invited on behalf of President of India from approved and eligible Contractors of CPWD in appropriate class for the work of

Annual repair and Maintenance of residential and non-residential building at IIPS Campus, Deonar Mumbai during 2026-27.

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 cost Rs. 41,86,163/-.

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 indicates the estimated cost of each component separately. The eligibility of bidders will correspond to the combined estimated cost of different components put to bid.~~

2. Agreement shall be drawn with the successful bidders on prescribed Form No. CPWD 7 updated upto date of correction slip (~~or other Standard Form as mentioned~~) which is available as a Govt. of India Publication and also available on website www.cpwd.gov.in. Bidders shall quote his rates i/c GST and other applicable taxes as per various terms and conditions of the said form which will form part of the agreement.
3. The time allowed for carrying out the work will be **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. The site for the work is available.
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 on website www.cpwd.gov.in or <https://etender.cpwd.gov.in> in free of cost.
6. After submission of the bid the contractor can re-submit revised bid any number of times but before last date and time of submission of bid as notified. No post tender modification is allowed by the tenderers except through negotiations, if required. In case, any bidder does so, the tender will be rejected and the bidder will be debarred for future tendering in CPWD for two years by the concerned enlisting authority (in case of CPWD enlisted contractor) and by the concerned CE/SE (in case of non-enlisted contractor)

7. While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last date and time of submission of bid as notified.
8. Earnest money in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipts, Banker's Cheque or Bank Guarantee including e-Bank Guarantee (for balance amount as prescribed) from of any of the Commercial Bank (drawn in favour of **Executive Engineer, MCD VI, CPWD, Mumbai**) shall be scanned and uploaded to the e-tendering website within the period of bid submission. The original EMD should be deposited either in the office of **Executive Engineer, MUMBAI-V, CPWD, Mumbai** inviting bids or Division office of any Executive Engineer, CPWD within the period of bid submission. The EMD receiving Executive Engineer (including issuing EE/AE) shall issue a receipt of deposition of earnest money deposit to the bidder in a prescribed format (enclosed) uploaded by tender inviting EE in the NIT.

This receipt shall also be uploaded to the e-tendering website by the intending bidder up-to the specified bid submission date and time.

A part of earnest money is acceptable in the form of bank guarantee including **e-Bank Guarantee** also. In such case, 50% of earnest money or Rs. 20 lac, whichever is less, will have to be deposited in shape prescribed above, and balance can be accepted in form of Bank Guarantee issued by Commercial bank having validity for six months or more from the last date of receipt of bids which is to be scanned and uploaded by the intending bidders.

EMD shall be made / issued only from the account of the bidder / tenderer submitting the bid/tender. EMD made / issued from the account other than that of the bidder / tenderer submitting the bid shall not be accepted.

The earnest money given by all the tenderers except the lowest tenderer shall be refunded immediately after the expiry of stipulated bid validity period or immediately after acceptance of the successful bidder whichever is earlier.

Copy of Enlistment order and Certificate of work experience and other documents as specified in the e-tender notice shall be scanned and uploaded to the e-tendering website within the period of id submission.

However, certified copy of all the scanned and uploaded documents as specified in e-tender notice shall have to be submitted by the lowest bidder only along with physical EMD of the scanned copy of EMD uploaded within a week physically in the office of tender opening authority.

Online bid documents submitted by intending bidders shall be opened only of those bidders, **whose original EMD deposited with any division of CPWD and other document scanned and uploaded are found in order.**

The bid submitted shall be opened at 3:30 p.m. on 22/07/2026

9. The bid submitted shall become invalid if:
 - (i) The bidder is found ineligible.
 - (ii) The bidder does not upload scanned copies of all the documents stipulated in the bid document.
 - (iii) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest bidder in the office of tender Opening authority.

- (iv) If a tenderer ~~quotes nil rates against each item in item rate tender~~ or does not quote any Percentage above / below on the total amount of the tender or any section / sub head in Percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tender.

10. (i) The contractor whose bid is accepted, will be required to furnish performance guarantee at specified percentage of the tendered amount as mentioned in Schedule 'E' and within the period specified in Schedule F. This guarantee shall be in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt or Bank Guarantee of any Commercial Banks 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.

PG shall be 5% of the Estimated Cost put to tender (ECPT) or contract amount whichever is higher, or as prescribed from time to time, to be submitted in the form as prescribed in GCC. Performance Guarantee shall remain valid for a minimum period of Six Months beyond the date of completion of all contractual obligations as per GCC in case of contracts where supplementary agreement is drawn, the fresh PG shall be obtained from the contractor @ 5% of the amount of the supplementary agreement or as prescribed from time to time. The PG received against the original work shall be released as per contract conditions.

A bid will be treated as abnormally low if the quoted bid amount is lesser than 80% of the estimated cost put to tender.

Requirement of Additional Performance Guarantee (APG): In case of abnormally low bids as defined above, the bidder shall be required to submit Additional Performance Guarantee (APG) in addition to the Standard Performance Guarantee (PG). The amount of Additional Performance Guarantee (APG) shall be equivalent to the difference between the 80% amount of ECPT and quoted amount. (e.g. if ECPT is A and quoted amount is 0.7A then the amount of APG shall be $0.8A - 0.7A$).

The Additional Performance Guarantee (APG) shall be in the prescribed format of Performance Guarantee and has to be submitted within the time frame prescribed for submission of Performance Guarantee. The other terms and conditions of release etc. of APG shall be same as that of PG.

The contractor whose bid is accepted will also be required to furnish by way of Security Deposit for the fulfillment of his contract, an amount equal to 2.5% of the tendered amount of the work. The Security Deposit will be collected by deductions from the running bills as well as final bill of the contractor at the rates mentioned above. The Security amount will also be accepted in the shape of insurance Surety Bonds, Account Payee, Demand Draft, Fixed Deposit Receipt or Bank Guarantee from any of the Commercial Bank will be accepted for this purpose provided confirmatory advice is enclosed.

The contractor whose bid is accepted will also be required to furnish either copy of applicable licenses / registrations or proof of applying for obtaining labor licenses, registration with EPFO, ESIC and BOCW Welfare Board including Provident Fund Code No. and Program Chart (Time and Progress) with the period specified in Schedule "F"

11. The description of the work is as follows:

Annual repair and Maintenance of residential and non-residential building at IIPS Campus, Deonar Mumbai during 2026-27.

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 bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidders 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 President of India 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 to rejection.
- 14.** The competent authority on behalf of President of India reserves to himself the right of accepting the whole or any part of the bid and the bidders shall be bound to perform the same at the rate quoted.
- 15.** The contractor shall not be permitted to bid for works in the CPWD Circle (Division in case of contractors of Horticulture/Nursery category) responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazette officer in the Central Public Works Department or in the Ministry of Urban Development. 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 previous 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 Thirty (30) days from the date of opening of bids in case of single bid system and 75 (Seventy Five) days

from the date of opening of technical bids in case bids are invited in 2 or 3 bid system. Further

- i) if any bidder withdraws his bid or makes any modifications in the terms and conditions of the bid which is not acceptable to the department within 7 days after last date of submission of bid, then the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money absolutely irrespective of letter of acceptance for the work issued or not.
 - ii) if any bidder withdraws his bid or makes any modifications in the terms and conditions of the bid which is not acceptable to the department after expiry of 7 days after last date of submission of bid, then the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit 100% of the said earnest money absolutely irrespective of letter of acceptance for the work issued or not.
 - iii) Withdrawal of the tender, by the tenderer shall only be made through e-Tender portal. Any other method i.e. through letter/e-mail etc. shall not be considered. The tender inviting authority gets intimation through SMS and email in this regard.
 - iv) In case of forfeiture of earnest money as prescribed in para (i) and (ii) above, the bidders shall not be allowed to participate in the rebidding process of the work.
- 18.** This notice inviting Bid shall form a part of the contract document. The successful bidders/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) The Notice Inviting Bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.
 - b) Standard C.P.W.D. Form 7 or other Standard C.P.W.D. Form as mentioned.
- 20.** The intending bidders are required to update their profile in CPWD e-tender portal and to upload their bids well in advance of last date of submission of tender. Any issue related to updating profile / uploading tender can be resolved through the concerned Executive Engineer / Assistant Engineer or ERP help line number 18001803286 or e-mail Id cpwd.support@techmahindra.com. The e-tendering bidders are also advised not to wait to raise any issue till the last date of submission of bid in their own interest.
- 21.** In case any discrepancy is noticed between the documents as uploaded at the time of submission of the bid online and hard copies as submitted physically in the office of Executive Engineer, then the bid submitted shall become invalid and the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the tenderer shall not be allowed to participate in the re-tendering process of the work.

Executive Engineer,
Mumbai-V, CPWD, Mumbai-20
Signature of Divisional Officer
For & on behalf of President of India

**GOVERNMENT OF INDIA
CENTRAL PUBLIC WORKS DEPARTMENT**

Percentage Rate Tender & Contract for Works

Tender for the work of: Annual repair and Maintenance of residential and non-residential building at IIPS Campus, Deonar Mumbai during 2026-27.

To be uploaded by 3:00 P.M. on 22/07/2026 at <https://etender.cpwd.gov.in>

To be opened in presence of tenderers who may be present at 3:30 P.M. on 22/07/2026 in the office of **Executive Engineer, Mumbai - V, CPWD, Mumbai.**

TENDER

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 President of India within the time specified in Schedule 'F' viz., schedule of quantities and in accordance in all respect with the specifications, designs, drawing 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 respect of accordance with, such conditions so far as applicable.

We agree to keep the tender open for Thirty (30) days from the due date of its opening and not to make any modification in its terms and conditions.

I/We have deposited EMD for the prescribed amount in the office of concerned Executive Engineer as per the bid document.

A copy of earnest money deposit in receipt of prescribed amount deposited in the form of insurance Surety Bonds, Account Payee, Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (as prescribed) issued by the Commercial bank is scanned and uploaded. (strike out as the case may be). If I/We, fail to furnish the prescribed performance guarantee within prescribed period. I/We agree that the said President of India or his successors, in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/We fail to commence work as specified, I/We agree that President of India or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely, otherwise the said earnest money shall be retained by him towards security deposit 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 GCC 2023.

Further, I/We agree that in case of forfeiture of Earnest Money & Performance Guarantee as aforesaid. I/We shall be debarred for participation in the re-tendering process of the work.

I/We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/We shall be debarred for tendering in CPWD 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 Deposit/Performance Guarantee.

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

Dated:

Signature of Contractor

Witness:

Postal Address

Address:

Occupation:

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for anon behalf of the President of India for a sum of **Rs.****(Rupees****)**.

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

(a)

(b)

(c)

For & on behalf of President of India

Signature.....

Designation

Dated:

EMD RECEIPT FORMAT**Receipt of deposition of original EMD****(EMD in favour of Executive Engineer, MCD-VI, CPWD, Mumbai-20)**

(Receipt No.....#..... / Date.....#.....)	
<u>Name of Work</u>	: Annual repair and Maintenance of residential and non-residential building at IIPS Campus, Deonar Mumbai during 2026-27.
NIT No *	: 17/EE/MUMBAI-V/2026-27
Estimated Cost *	: Rs. 41,86,163/-
Amount of Earnest Money Deposit*	: Rs.83,723/-
Last date of submission of bid *	: 22/07/2026 up to 03.00 PM
(*To be filled by Tender inviting authority/ NIT approving authority at the time of issue of NIT and uploaded along with NIT)	
Name of Contractor #	:
Form of EMD #	:
Amount of Earnest Money Deposit #	:
i) In the form of Insurance Surety Bonds or Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque for Rs.....#..... Vide#.....Date.....#.....	
ii) In the form of Bank Guarantee (for balance amount as prescribed) Rs.....#issued by.....#..... Date.....#...	
Date of submission of EMD #	:
Name of Officer #	:
Designation of EMD receiving officer #	:
Office name and Address #	:
Office Phone #	:
E-mail ID #	:
Signature #	:
Office stamp #	:
# To be filled by EMD receiving EE/DDH	
Note: - 1) All the above-mentioned details must be dully filled otherwise it may not be considered for tender. 2) The receipt can also be issued by any subordinate gazette authority as authorized by the EE/DDH.	

Form 'F-1'**Undertaking on structural stability and soundness of already completed buildings and infrastructure projects.**

I/we undertake and confirm that any building/infrastructure constructed by our firm/partnership firm/company has not suffered any failure, making it unfit for intended use, either due to structural design and defects or due to use of sub-standard materials or execution of sub-standard work, poor workmanship or any other reason during the last 25 (twenty five) years.

I/we, further, undertake that if such information comes to the notice of CPWD, then Engineer- in-Charge shall be free to terminate the bid/agreement and to forfeit the entire amount of earnest money deposit, performance guarantee and security deposits.

I/we also undertake that in addition to above, the Engineer-in-Charge shall be free to debar us forever from tendering in CPWD.

The decision of Engineer-in-Charge or any higher authority shall be final and binding.

Signature of notary with seal.

Signature of bidder or an authorized person of the firm and stamp.

(Note: Affidavit to be furnished on a 'Non-Judicial' Stamp paper of Rs. 200/- (scanned copy of the notarized affidavit to be uploaded at the time of submission of bid).

Form 'F-2'**Undertaking on structural stability and soundness of already completed buildings and infrastructure projects.**

I/we undertake and confirm that any building/infrastructure constructed by our firm/partnership firm/company after registration of our Firm / Company has not suffered any failure, making it unfit for intended use, either due to structural design and defects or due to use of sub-standard materials or execution of sub-standard work, poor workmanship or any other reason.

I/we, further, undertake that if such information comes to the notice of CPWD, then Engineer- in-Charge shall be free to terminate the bid/agreement and to forfeit the entire amount of earnest money deposit, performance guarantee and security deposits.

I/we also undertake that in addition to above, the Engineer-in-Charge shall be free to debar us forever from tendering in CPWD.

The decision of Engineer-in-Charge or any higher authority shall be final and binding.

Signature of notary with seal.

Signature of bidder or an authorized person of the firm and stamp.

(Note: Affidavit to be furnished on a 'Non-Judicial' Stamp paper of Rs. 200/- (scanned copy of the notarized affidavit to be uploaded at the time of submission of bid).

PROFORMA OF SCHEDULES**(Separate Proforma for Civil, Elect. & Hort. Works in case of Composite Tenders)****SCHEDULE 'A'**

Schedule of quantities (as per PWD-3)	:	Schedule of Quantities as per page No.83
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SCHEDULE 'D'

Extra schedule for specific requirements/document for the work, if any.	:	NIL
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SCHEDULE 'E'

Reference to General Conditions of contract GCC EPC Projects 2024 / GCC Maintenance Works 2023 / GCC Construction works 2023	:	Applicable GCC Maintenance work 2023 as modified & corrected upto previous day of the last date of submission of the tender.
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Name of Work: Annual repair and Maintenance work of IIPS Staff quarters at Nerul Navi Mumbai during 2026-27.

(i)	Estimated cost of work	:	Rs.41,86,163/-
(ii)	Earnest Money	:	Rs.83,723/- (To be returned after receiving of PG)
(iii)	Performance Guarantee	:	5% of Estimated Cost or Contract Amount whichever is higher and Additional Performance Guarantee equivalent to different between 80% amount of ECPT and quoted amount if quoted bid amount is lesser then 80% of ECPT
(iv)	Security Deposit	:	2.5% of tendered value Or 2.5% of tendered value plus 50% of PG for contracts 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**

Executive Engineer, MUMBAI - V,
Central Public Works Department,
Mumbai.

Definitions:

2(v) Engineer-in-Charge	:	Executive Engineer, MUMBAI - V, CPWD, Mumbai or his successor thereof.
2(viii) Accepting Authority	:	Executive Engineer, MUMBAI - V, CPWD, Mumbai or his successor thereof.
2(x) Percentage on cost of materials and Labour to cover all overheads and profits	:	15%
2(xi) Standard Schedule of Rates	:	Delhi Schedule of Rates 2023 & 17% Cost Index with amendment issued up-to last day date correction slip received On the date of online receipt of tender
2(xii) Department	:	Central P.W.D.
9(ii) Standard CPWD Contract Form,	:	General Condition of Contract Maintenance works 2023 CPWD Form 7/8 as modified & corrected Up-to previous day of the last date of submission of tender.

Clause 1

Time allowed for submission of Performance Guarantee Program chart (Time and Progress) and applicable Labor licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof from the date of issue of letter of acceptance	:	7 (Seven)days
Maximum allowable extension with late fee @ 0.1%per day of Performance Guarantee amount beyond the period provided in (i) above	:	3 (Three)days

Clause 2

Authority for fixing compensation under clause 2	:	Chief Engineer, Mumbai-II, CPWD, Mumbai – 20. Or any other Authority as decided by CPWD Directorate.
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Clause 2A

Whether Clause 2A shall be applicable Yes / No:	:	No
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Clause 5

Number of days from the date of issue of letter of acceptance for reckoning date of start	:	10 (Ten) days from Letter of award or date of handing over of site whichever is later
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Table of Mile stone(s)

Sl. No.	Description of Milestones (Financial)	Time allowed in days (From date of start)	Amount to be withheld In case of non-achievement of Milestone.
1	1/8th (of the whole work)	1/4th (of the whole work)	In the event of not achieving the necessary progress as assessed from the running payments, 1.25% of the tendered value of work will be withheld for failure of each milestone.
2	3/8th (of the whole work)	1/2 (of the whole work)	
3	3/4th (of the whole work)	3/4th (of the whole work)	
4	Full	Full	

Note:

1. Withheld amount shall be released if and when subsequent Milestone is achieved within respective time specified. However, in case Milestones are not achieved by the Contractor, the amount shown against each Milestone shall be withheld.
2. Intending bidder may submit phasing of activities / milestones based on their resources and methodology at the time of bidding corresponding to physical milestones / stages indicated in the above table. These shall form part of the agreement after approval of the accepting authority, otherwise it would be assumed the agency agrees with the above-mentioned physical milestone.

Time allowed for execution of work Authority to decide	:	TWELVE MONTHS
Authority to decide		
Authority to convey the decision of shifting of mile stone and Extension of time	:	Executive Engineer, MUMBAI - V, CPWD, Mumbai
Authority to decide Rescheduling of mile stones	:	Chief Engineer, MUMBAI -II,CPWD, Mumbai -20
Shifting of date of start in case of delay in handing over of Site	:	Chief Engineer, MUMBAI - II, CPWD, Mumbai -20

PROFORMA OF SCHEDULES Clause 5 schedule of handing over of site.

Part	Portion of site	Description	Time period for handing over reckoned from date of issue of letter of intent.
Part A	Portion without any hindrance	Site will be made available	
Part B	Portions with encumbrances		
Part C	Portions dependent on work of other agencies		

Clause 5

Applicable Clause 5 / Clause 5A	:	Clause 5 is applicable
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Clause 6

Computerized Measure Book (CMB) / Electronic Measurement Book (EMB)	:	Applicable Measurement to be submitted in shape of the either CMB/EMB Measurement to be recorded by contractor
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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.3,48,800/-
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Clause 7 A

Whether Clause 7A shall be applicable	:	Yes No running account bill / Final Bill shall be paid for the work till the applicable, labour, licenses registration with EPFO, ESIC and BOCW welfare board, whatever applicable are submitted by the contractor to the Engineer-in-charge.
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Clause 8

	:	Competent Authority to inspect and issue Completion Certificate. Executive Engineer, Mumbai-V, CPWD, Mumbai-20.
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Clause 10A

List of testing equipment to be provided by the contractor at site lab	:	As per Annexure-I attached And As required as per the direction of Engineer-in-charge
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Clause 10B (ii)

Whether Clause 10B (ii) shall be applicable	:	No
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Clause 10C	:	Not Applicable
Component of labor expressed as percent of value of work	:	

Clause 10CC	:	Not Applicable
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Clause 11

Specifications to be followed for work	:	CPWD specification 2019 Vol.- I & II With up-to the date Correction slips
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Clause 12

The completion cost shall in no case exceed 1.5 times the contract.

Completion cost	:	The completion cost includes gross amount of work done, amount of extra item(s) and deviation and escalation amount admissible as per agreement etc.
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Clause 16

Competent Authority for Deciding reduced rates	:	Chief Engineer, Mumbai-II, CPWD, Mumbai – 20. / Or any other Authority as decided by CPWD Directorate.
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Clause 18

List of mandatory machinery, tools & plants to be deployed by the contractor at	:	As per Annexure-II attached
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site		
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Clause 19 (C), 19 (D), 19 (G), 19 (K)

Authority to decide penalty for each default	:	Executive Engineer of respective discipline or any other Authority as decided by CPWD Directorate
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Clause 25

Conciliator	Special Director General (PRM), CPWD, Mumbai or his successor
Arbitrator Appointing Authority	Chief Engineer (Mumbai-II), CPWD. Mumbai or his successor
Place of Arbitration	Mumbai or as decided by Learned Arbitrator and the parties

Clause 32

Sr. No.	Minimum Qualification of Technical Representative	Number (of Major + Minor Component)	Minimum Experience in years	Designation	Rate of which recovery shall be made from the contractor in the event of not fulfilling provision of clause
1	Graduate Engineer or Diploma Engineer	1	2 years in case of Graduate Engineer or 5 Years for Diploma Engineer	Project Manager cum Planning/ Qualify / Site/ Billing Engineer	Rs.15000/- per month per person

Requirement of Technical Representative(s) and Recovery Rate

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

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

The above requirement shall be from start of work to the date of completion of work.

C: NIL / O : NIL / I : NIL

AE(P)/EE

Clause 38

(i)	a	Schedule / statement for determining theoretical quantity of cement and bitumen	Delhi Schedule of Rates 2023 With up-to date correction slip received On the date of receipt of tender
(ii)		Variation permissible on theoretical quantities	
	a	Cement	
		For works with estimated cost put to Tender not more than Rs.25 lakhs.	3% plus/minus
		For works with estimated cost put to Tender more than Rs.25 lakhs.	2% plus/minus
	b	Bitumen All Works	2.5% plus only & Nil on minus side
	d	Steel Reinforcement and structural steel Sections for each diameter, section and category	2% plus/minus
	E	All other materials	NIL

ANNEXURE –IList of testing equipment to be provided by the contractor at site lab

Equipment's for conducting necessary tests shall be provided and installed at site in the well-furnished site laboratory by the agency at his own cost. The following list is only indicative and not exhaustive. The Bidder may be required to deploy more equipment's as per requirement of work. Nothing extra shall be payable.

In case any equipment is not required in the work as per decision of Engineer in Charge, the same shall be considered as deleted from list.

Sl. No	Equipment	Numbers (Minimum)
1	Balances – i) 7 kg to 10 kg capacity semi-self-indicating type – accuracy 10 gram. ii) 500 Gram capacity semi-self-indicating type – accuracy 1 gram iii) Pan balance -5 kg capacity – accuracy 10 grams	1
2	Ovens- electrically operated Thermostatically controlled upto 110 degree C – Sensitivity 1 degree	1
3	Sieves as per IS 460-1962 i) I.S. sieves - 450mm internal dia of sizes [100mm, 80mm, 63mm, 50mm, 40mm, 25mm, 20mm, 12.5mm, 10mm, 6.3mm, 4.75mm complete with lid and pan] ii) I.S. Sieves - 200mm internal dia (brass frame) consisting of 2.36mm, 1.18mm, 600 microns, 425 microns, 300 microns, 212 microns, & 150 micron, 90 microns, 75microns, with lid and pan]	1 1
4	Sieve shaker capable of 200mm and 300mm dia sieves, manually operated with timing switch	1

	assembly	
5	Equipment for slump test-Slump cone, steel plate, tamping rod, steel scale, scoop.	1
6	Dial gauges 25mm travel- 0.01 mm/division least count – 2 nos.	1
7	100tonnes compression testing machine, electrical-cum-manually operated	1
8	Graduated measuring cylinders 200 ML capacity	3
9	Enamel trays (for efflorescence test for bricks) i) 300 mm x 250mm x 40mm ii) Circular plate of 250mm dia	2 4
10	Slump cone, steel plate, tamping rod, steel scale, scoop	1 (each)
11	Pumps and pressure gauges for hydraulic testing of pipes	1
12	Cube moulds size 70mmx70mmx70mm	-
13	Cube moulds size 150mmx150mmx150mm	-
14	Dial gauge, 25 mm dial-0.01mm/ division least count	2
15	Spatula 100mm & 200mm with long blade wooden handle	1 each
16	Vernier calipers 12" & 6" sizes	1 each
17	Digital Micrometer least count 0.01mm	1
18	Digital paint thickness meter for steel 500 micron range	-
19	GI tray 600x450x50mm, 450x300x40mm, 300x250x40mm	2 each
20	Electric Motor mixer 0.25 cum capacity	-
21	Screw gauge 0.1mm-10mm, least count 0.05	1
22	Pruning Rods 2 Kg weight length 40 cm and ramming face 25 mm ²	2
23	Extra Bottom plates for 15 cm cube mould	-
24	Iron Weight of 5 kg, 2 kg, 1 kg, 500 gm, 200 gm, 100 gm	1 each
25	Brass Weight of 50 gm, 20 gm, 10 gm, 5 gm, 2	1 each

	gm, 1 gm	
26	Measuring cylinder TPX or Poly propylene capacity 100 ml, 500ml, 250 ml	1 each
27	Wash Bottles capacity 500 ml	3
28	Hammer 1lb & 2lb	2 each
29	Hacksaw with 6 blades	2
30	Plastic or G.I. Buckets 15 ltr, 10 ltr, 5 ltr	1 each
31	Wheel Barrow	3
32	Any other equipment for site tests as outlined in BIS codes and as directed by the Engineer-in-charge.	1
33	Steel tape a) 30 Mtrs b) 3 Mtrs	1 2
34	Wire gauge (circular type) disc	1
35	Foot Rule	1
36	Long Nylon Thread	1
37	Rebound hammer for testing concrete	1
38	Dynamic penetrometer	1
39	Magnifying glass	1
40	Screw driver 30 cms long	1
41	Ball pin Hammer 100 gms	1
42	Plastic bags for taking samples	1 Packet
43	Moister meter for timber	1
44	A good quality plumb bob	1
45	Spirit level, minimum 30 cms long with 3 bubbles for horizontal/ vertical	1
46	Hydrometer	1
47	Water Testing Kit	1

ANNEXURE-IIList of mandatory machinery, tools & plants to be deployed by the contractor at site

All the plants & machinery mentioned below are to be deployed as and when required or as directed by Engineer-in-Charge. The below list is only indicative and not exhaustive. The Bidder may be required to deploy more machinery, tools & plants as per requirement of work. Nothing extra shall be payable.

In case any equipment is not required in the work as per decision of Engineer in Charge, the same shall be considered as deleted from list.

Sl. No.	Equipment	Number (Minimum)
1	Tower Crane up-to 40 m boom length and of required capacity	-
2	Hoist Lift	-
3	Excavator cum loader (JCB 3D model or equivalent).	-
4	Needle Vibrators.	1
5	Plate Vibrators.	-
6	Dumper. (As & when required)	-
7	Reinforcement bending machine.	-
8	Reinforcement cutting machine.	-
9	Power driven earth rammer (Soil compactor).	-
10	Total station.	-
11	Auto level & staff.	-
12	Welding machine 400 Ampere	1
13	Screener for coarse sand and fine sand	1
14	Centrifugal mono block water pump minimum capacity 2 HP	1
15	Any other machinery required for completion of the work as per decision of Engineer-in-charge.	As per Actual requirement

Proforma – B

On non-judicial stamp paper on minimum Rs.100/-
(Guarantee offered by Bank to CPWD in connection with the execution
Of Contracts)

**Form of Bank Guarantee for Earnest Money Deposit/ Performance Guarantee
/ Security Deposit / Mobilization Advance.**

1. WHEREAS the Executive Engineer (Name of division)CPWD on behalf of the President of India (hereinafter called "The Government") has invited bids under (NIT Number)..... dated for (name of work) The Government has further agreed to accept irrevocable Bank Guarantee for Rs..... (Rupees Only) valid up-to (Date) * as **Earnest Money Deposit** from (name and address of contractor) (Hereinafter called "the contractor" for compliance of his obligations in accordance with the terms and conditions of the said NIT.

OR **

WHEREAS the Executive Engineer (Name of division)CPWD on behalf of the President of India (hereinafter called "The Government") has entered into an agreement bearing number with (Name and address of the contractor)..... (herein after called "the contractor" for execution of work..... (name of work)

The Government has further agreed to accept irrevocable Bank Guarantee for Rs..... (Rupees Only) valid up-to (Date) * as **Performance Guarantee / Security Deposit / Mobilization Advance** from the said contractor for compliance of his obligations in accordance with the terms and conditions of the Agreement.

2. We, indicate the name of the bank) hereinafter referred to as "the Bank"), hereby undertake to Pay to the Government a amount not exceeding Rs. (Rupees only) on demand by the Government within 10 days of the demand.
3. We, indicate the name of the Bank), do here by undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. (Rupees Only)

4. We,) indicate the name of the Bank), further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any Court or Tribunal, our liability under this Bank Guarantee being absolute and unequivocal. The payment so made by us under this bank guarantee shall be a valid discharge of our liability for payment there under and the Contractor shall have no claim against us for making such payment.
5. We, (indicate the name of the Bank), further agree that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligation here under to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such, variation or extension being granted to the said Contractor or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said Contractor or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
6. We, (indicate the name of the Bank), further agree that the Government at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor at the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee the Government may have in relation to the Contractor's liabilities.
7. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.
8. We,(indicate the name of the Bank)..... undertake not to revoke this guarantee except with the consent of the Government in writing.
9. This Bank Guarantee shall be valid up to 9.unless extended on demand by the Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs..... (Rupees only)and unless a claim in writing is lodged with us within the date of expiry or extended date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharged.

Date

Witnesses:

1. Signature.....
Name and address

Authorized signatory
Name

Designation
Staff code no.
Bank seal

C: NIL / O : NIL / I : NIL

AE(P)/EE

1. Signature.....

Name and address

* Date to be worked out on the basis of validity period of 90 days where only financial bids are invited and 180 days for two/three bid system from the date of submission of tender.

**In paragraph 1, strike out the portion not applicable. Bank Guarantee will be made either for earnest money or for performance guarantee / security deposit/mobilization advance, as the case may be.

Central Public Works Department

NIT NO: - 17/EE/MUMBAI-V/2026-27

Name of Work : Annual repair and Maintenance of residential and non-residential building at IIPS Campus, Deonar Mumbai during 2026-27.

PART B

**O/o EXECUTIVE ENGINEER, MUMBAI-V
CENTRAL PUBLIC WORKS DEPARTMENT**

General Conditions

- 1 The order of preference in case of any discrepancy shall be as under:-
 - i) Nomenclature of items as per schedule of quantities.
 - ii) Particular specification and special condition, if any.
 - iii) Architectural Drawings
 - iv) CPWD specifications.
 - v) Indian standard specifications of B.I.S.
 - vi) Sound Engineering Practice as approved by the Engineer-in-charge.
2. In case there is any discrepancy between English Version and corresponding Hindi version, if provided, then the provisions in English Version will prevail.
3. The contractor shall quote their rates inclusive of all taxes, cartage, royalties etc. complete.
4. The contractors are advised to visit the site of work to have and acquaint himself with the site condition an idea of the execution of the work; failure to do so will not absolve their responsibility to do the work as specified in agreement.
5. Before bringing any material at site, the agency will intimate the source of material by submitting the invoice and will get approved the sample first and all the material to be used shall be got approved from the Engineer-in-Charge before Installation at site.
6. The bad workmanship will not be accepted and defects shall be rectified at contractor's risk and cost to the satisfaction of the Engineer-in-Charge. The electrical works are to be executed in coordination with the building work and no claim for idle labour will be entertained.
7. All the debris of the works should be removed and the site should be cleared by the contractor immediately after accumulating of debris. Similarly, any rejected material should be immediately cleared off from the site by the contractor.
8. The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the user and to the public in general and to prevent any damage to such properties and any pollution of smoke, streams and waterways. He shall make good at his cost and to the satisfaction of the Engineer-in-Charge, any damage to roads, paths, cross drainage works or public or private property whatsoever caused by the execution of the work or by traffic brought thereon by the contractor. 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.
9. Any damage caused to the fittings/switch gears/installation/machinery as a result of negligent execution of the work, shall be replaced/to be made good by the contractor at his own cost.
10. The Contractor will submit all the credentials of Staff to be deputed at site as per requirement of Agreement within 7 days from the start of Works to the Engineer-in-Charge. The deployed manpower will be police verified by the agency. Manpower once deployed will not be frequently changed. However, if necessary, the replacement of any staff will subject to approval of JE/AE in-charge and obtaining of police verification.
11. The character and antecedents of staff employed by the contractor shall be got verified from the police by the contractor. The contractor shall have to apply before concerned police station within 10 days from the date of start of work.

12. The staff engaged by the contractor should be well behaved, polite and courteous. Any complaints against staff misbehaviour should be taken very seriously and such staff should be removed by the contractor immediately from the site and arrange replacement for the same failing which the Engineer-in-charge has the power to cancel the contract and the contractor shall have no right to claim of loss/compensation.
13. The contractor has to work in restricted / occupied campus area and in restricted time (odd hours) due to security reasons. He shall be bound by the instructions of security staff and Engineer-in-Charge on the working and for moment of labour , material etc. and agency shall plan the worked to be carried out in such a manner so that the occupants are not inconvenienced in this respect.
14. Contractor shall provide name, father's name, residential address and other details i/c photo as may be required by the security staff or issue of photo pass to the labour engaged on work.
15. The Department shall arrange entry passes for site Complex.
16. The main/associated contractor shall have registration with Employee Provident Fund Commissioner and Employee's State Insurance Corporation for safe guarding the interest of his workmen. The contractor shall obtain all necessary approval from state/Local Body as per law in vogue.
17. The contractors shall pay the wages & allowances as applicable and revised time to time by the Govt. and the Contractor shall submit the proof of increased wages paid wages register and bank statement to the workers deployed with for re-imbursement/claim under Clause 10 C of agreement.
18. No claim for idle establishment & labour, machinery & equipment, tools & plants and the like, for any reason whatsoever, shall be admissible during the execution of work as well as after its completion.
19. ESI & EPF shall be reimbursed to the firm on actual basis paid by the firm on production of proper documentary evidence.
20. The contractor will hire separate labour for Civil & Electrical works and deposit ESI and EPF contribution(vide separate ECR and Challans) deducted from the employee and contribution on the part of employer paid by the contractor to the concerned authorities. For reimbursement of ESI & EPFO from the department the contractor shall submit an affidavit on stamp paper of Rs. 10 along with the duly paid challans stating "I have not claimed the reimbursement of this bill from anywhere else. I shall also not claim this from any other of office in future"
21. Safety of staff will be the responsibility of the contractor as per labour law. The department will not be a party in such litigation.
22. After the expiry of the contract, the firm shall have to hand over complete installation to the department in proper working order. All defects and deficiencies shall have to be rectified by the firm to the entire satisfaction of Engineer-in-charge failing which, the work shall be got done at the risk and cost of the firm.
23. The contractor shall have to arrange for issue of identity cards as per directions from the department for all staff engaged within two week of start of work at his own cost and also submit two extra photographs of each workers for record. If he fails to do so, the department shall recover Rs. 25/- per person per day for this default from the monthly bills.
24. Any Renovation Works carried out separately by any Agency during the currency of the

Contract shall be maintained under the Scope of this Works but any major defects in the said works during the guaranty period is the responsibility of concerned agency who executed the work.

25. The contractor or his representative is bound to sign the site order book as and when required by the Engineer-in-Charge and to comply with the remarks therein.
26. Unless otherwise provided in the Schedule of Quantities/Specifications, the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the work and nothing extra shall be payable to him on account of the same. Rates quoted will be applicable for the centering/shuttering up to height of 3.5 metres on all floors and nothing extra will be payable. Extra payment for centering /shuttering, if required to be done for floor heights greater than 3.5 m shall however be admissible at the rates arrived at in accordance with clause 12 of the agreement, if not already specified.
27. The contractor (s) shall give to the Municipality, Police and other authorities all necessary notices etc. that may be required by law and obtain all requisite Licenses for temporary obstructions, enclosures etc. and pay all fee, taxes and charges which may be leviable on account of these operations in executing the contract nothing extra shall be paid / reimburse for the same. He shall make good any damage to the adjoining property whether public or private and shall supply and maintain light and other illumination on for cautioning the public at night.
28. The contractor shall take all precautions to avoid accidents by exhibiting necessary caution boards day and night speed limit boards red flags, red lights and providing barriers. He shall be responsible for all dangers and incidents caused to existing / new work due to negligence on his part. No hindrances shall be caused to traffic during the execution of the work.
29. **The contractor shall make his own arrangement for obtaining water and electric connection(s) if required and make necessary payments directly to the department concerned.**
30. If as per local Municipal regulations or any due to any other restriction, the huts for labourers are not to be erected at the site of work, the contractor shall be required to provide such accommodation at a place outside the campus as is acceptable to the local body and nothing extra shall be paid on this account.
31. It shall be ensured by the contractor that no electric live wire is left exposed or unattended to avoid any accidents in this regard.
32. The contractor shall maintain in perfect condition, all portions executed till completion of the entire work allotted to him. Where however phased delivery of work is contemplated these provisions shall apply separately to each phase.
33. The entire royalty at the prevalent rates shall have to be paid by the contractor on all the boulders, metals, sand etc. Collected by him for execution of the work, directly to the Revenue authority or authorized agents of the State Government concerned or the Central Government, as the case may be.
34. If the work is carried out in more than one shift or during night no claim on this account shall be entertained.
35. Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar services encountered in the course of the execution of work shall be protected against the damage by the contractor at his own expense. The contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services.

36. The contractor shall bear all incidental charges for cartage, storage and safe custody of materials issued by department.
37. In the event of prolongation of agreement due to delay or reduction in the scope of work, no claim on account of reduction in the scope of work, loss of business, loss of profit consequently, overheads and any type of interest etc. will be entertained.
38. The contractor shall protect and indemnify the CPWD and its officials & employees against any claim and/or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives. Nothing extra shall be payable on these accounts
39. The Contractor shall assume all liability, financial or otherwise in connection with this contract and shall protect and indemnify the CPWD from any and all damages and claims that may arise on any account. The Contractor shall indemnify the Department CPWD against all claims in respect of patent rights, royalties, design, trademarks- of name or other protected rights, damages to adjacent buildings, roads or members of public, in course of execution of work or any other reasons whatsoever, and shall himself defend all actions arising from such claims and shall indemnify the Department in all respect from such actions, costs and expenses. Nothing extra shall be payable on this account.
40. The contractor shall also comply with the provisions of Sexual Harassment of Women at Workplace (Prevention Prohibition and Redressal) Act, 2013 and amendment thereafter time to time. Any failure to fulfil these requirements shall attract the penal provisions of the relevant act and in this contract.
41. The contractor as soon as possible but within 7 (seven) days of issue of letter of award of work shall submit a time and Progress chart to the Engineer-in-Charge.
42. Wherever any reference to any Indian Standard Specifications/ International standard 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.
43. Samples for particular items of work shall be prepared, where so specifically desired by Engineer-in- charge, for prior approval of the Engineer-in-charge, before taking up the same on mass scale and nothing shall be payable on this account.
44. ~~Wherever desired by Engineer-in-charge, the contractor shall also upgrade a sample unit complete in all respect within a period of 45 (Fourty Five) days from date of start & this sample unit shall be got approved from the Engineer-in-charge before mass work is taken up. No extra claim, whatsoever beyond the payment due at agreement rates, will be entertained to the contractor on this account.~~
45. In case of deliberate delay of recording and submission of measurements, MBs and RA bills as per clause 6 of the GCC. The Engineer-in-charge shall act and ascertain to record the measurements, MB and RA bills after issue of 7 days' notice in this regard since Engineer-in-Charge has the responsibility to engineer the contract agreement and record the measurements during progress of work.
46. Unless otherwise specified in the schedule of quantities, the rate of all items of the work shall be considered as inclusive of pumping out or bailing out water, if required, for which no extra payment will be made .This will include water encountered from any source such as rains, floods, sub-soil water table being high or due to any other cause whatsoever.

47. The working drawings 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.
48. The words “Equivalent”, “Approval” and authorized” in these specifications shall imply and require written approval of the Engineer-in-Charge.
49. Income Tax, Labour cess, GST and other taxes shall be recovered on the gross amount of the bills as per prevailing rules and direction of concern authority.
50. The contractor will have to store material at a designated place in the Campus away from work site and thereafter bring material to work site as per requirement.
51. It is mandatory for the Agency to submit work program within one week of the award of Work failing which action may be taken as per terms and condition of the agreement.
52. Hindrance, if any, must be recorded through ERP only. Any entry through physical register will not be accepted.
53. RFI must be recorded/uploaded on daily basis/date of execution. RFI for older period will not be accepted. For older RFIs department will not be responsible for payment.
54. 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 building.
55. The contractor will intimate the Engineer-in-charge or his representative through RFI in ERP module in sufficient time before the covering of hidden items, so that measurement can be taken up jointly.

56. SAFETY MEASURES

a. Temporary Barricading

- (a) Contractor shall take all precautionary measures to avoid any damage to adjoining property. All necessary arrangement shall be made at his own cost.

b. Warning / Caution Boards

All temporary warning / caution boards / glow signage display such as "Construction Work in Progress", "Keep Away", “No Parking”, Diversions & protective Barricades etc. shall be provided and displayed during day time by the Contractor, wherever required and as directed by the Engineer-in-Charge. These glow signage and red lights shall be suitably illuminated during night also. The Contractor shall be solely responsible for damage and accident caused, if any, due to negligence on his part. Also he shall ensure that no hindrance, as far as possible, is caused to general traffic during execution of the work. This signage shall be dismantled & taken away by the Contractor

after the completion of work, only after approval of the Engineer – in – Charge. Nothing extra shall be payable on this account.

c. Sign Boards

The Contractor shall provide and erect a display board of size and shape as required and paint over it, in a legible and workman like manner, the details about the salient features of the project, as required by the Engineer-in-Charge. The Contractor shall fabricate and put up a sign board in an approved location and to an approved design indicating name of the project, client / owner, architects, structural consultants, Department etc. besides providing space for names of other Contractors, Sub-Contractors and specialized agencies. Nothing extra shall be payable on this account.

- d.** Necessary protective and safety equipment's shall be provided to the Site Engineer, Supervisory staff, labour and technical staff of the contractor by the Contractor at his own cost and used at site.
- e.** No inflammable materials including P.O.L shall be allowed to be stored in huge quantity at site. Only limited quantity of P.O.L may be allowed to be stored at site subject to the compliance of all rules / instructions issued by the relevant authorities and as per the direction of Engineer -in- Charge in this regard. Also all precautions and safety measures shall be taken by the Contractor for safe handling of the P.O.L products stored at site. All consequences on account of unsafe handling of P.O.L shall be borne by the Contractor.

57. SETTING OUT

- a.** The Contractor shall carry out survey of the work area, at his own cost, setting out the layout and fixing of alignment of the pile work, building in consultation with the Engineer-in-Charge & proceed further. Any discrepancy between the architectural drawings and actual layout at site shall be brought to the notice of the Engineer-in-charge. It shall be responsibility of the Contractor to ensure correct setting out of alignment. Total station survey instruments only shall be allowed to be used for layout, fixing boundaries, centre lines, etc., along with theodolites. Nothing extra shall be payable on this account.
- b.** The Contractor shall establish, maintain and assume responsibility for grades, lines, levels and benchmarks. He shall report any errors or inconsistencies regarding grades, lines, levels, dimensions etc. to the Engineer-in-Charge before commencing work. Commencement of work shall be regarded as the Contractor's acceptance of such grades, lines, levels, and dimensions and no claim shall be entertained at a later date for any errors found.
- c.** If at any time, any error in this regard appears during the progress of the work, the Contractor shall, at his own expense rectify such error, if so required, to the satisfaction of the Engineer-in-Charge. Nothing extra shall be payable on this account.
- d.** Though the site levels are indicated in the drawings the Contractor shall ascertain and confirm by him, the site levels with respect to benchmark from the concerned

authorities. The Contractor shall protect and maintain temporary/permanent benchmarks at the site of work throughout the execution of work. These benchmarks shall be got checked by the Engineer-in-Charge or his authorized representatives. Nothing extra shall be payable on this account.

The work at different stages shall be checked with reference to bench marks maintained for the said purpose. The cost of carrying out lay outs at all stages including marking of reference points, centre lines of the building etc. including construction/

ADDITIONAL CONDITIONS

- 1.1 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 or any other structure are to be constructed.
- 1.1.1 If ISI marked products are available, the contractor shall use only ISI marked products. In other cases, the materials shall conform to CPWD specifications. In case a materials/product is neither covered by ISI nor by CPWD specification, the work shall be carried out as per sound engineering practice, in such case, the decisions of the Engineer-in-charge shall be final & binding. In such cases Engineer-in-charge shall satisfy himself about the quality of such materials and give his approval in writing. Only articles classified as first quality by the manufacturers shall be used, unless otherwise specified. All materials not bearing ISI mark shall be tested as per relevant ISI specifications. The Engineer-in-charge may relax the condition regarding testing if the quantity of the materials required for the work is small. In all cases of use of ISI marked materials, proper proof of procurement of materials from authentic manufacturers shall be provided by the contractor to the entire satisfaction of Engineer-in-charge.
- 1.2 Other agencies doing works related with this project will also simultaneously execute the work and the contractor shall afford necessary facilities for the same. The contractor shall leave such necessary holes, opening etc., for laying/burying in the work pipes, cables, conduits, clamps, boxes and hooks for fan clamps etc. as maybe required for other agencies. Conduits for electrical wiring/cables will be laid in such a way that they leave enough space for concreting and do not adversely affect the structural members. Nothing extra over the agreement rates shall be paid for the same. The contractor shall extend necessary co-operation to other such agencies without any claim on this account.
- 1.3 Any cement slurry, required to be added over base surface for bond or for continuation of concreting, 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.
- 1.4 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, shall have to be done by the contractor at his own cost.
- 1.5 The building work will be carried out in the manner complying in all respect with the requirements of relevant bylaws of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer-in-charge and nothing extra will be paid on this account.
- 1.6 The contractor shall give a performance test of the entire installation(s), as per standing specifications, before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.
- 1.7 ~~The work pertaining to the items of internal finishing should be started in consultation and with prior approval of Engineer in Charge as soon as the structure of two floors is completed.~~
- 1.8 Any damage to work resulting from weathering conditions, defacing or from any other cause such as negligent act on the part of contractor, until the work is taken over by the Department after completion of work, shall be made good by the contractor at his own cost.
- 1.9 Dismantling of cement concrete floors shall be done with the help of mechanized vibratory hammer, drills etc. The work shall be carried out in such a way that there should be least disturbance to the occupants and work should be completed within least possible time. The contractor must ensure that there should be no damage to the supporting RCC members.

- 1.10 Any damage to the building, furniture, fittings of any other articles etc. done by the contractor or his workmen during the execution of work, shall be made good by the contractor, failing which the same shall be made good by the Engineer-in-charge or his authorized representative at the risk and cost of the contractor.
- 1.11 All doors, windows, floors, furniture, electrical fittings and other articles shall be protected from dust, splashes & damages sufficient covering for the day's work shall be shown to the representative of the Engineer-in-charge before the contractor is allowed to proceed with the work, splashes & droppings from whitewashing, colour washing, distempering painting etc. on walls, floors, doors and window, down take pipes, furniture shall be removed by the contractor at his own cost and surface cleaned simultaneously after the completion of the day's work is done, without waiting for the actual completion of the other items of work of the contract. In case the contractor fails to comply with this requirement the Engineer-in-charge or his authorized representative shall be the right to get this work done at the risk and cost of the contractor either departmentally or through another agency without issue of any notice to the contractor, departmentally or through another agency without issue of any notice to the contractor, on his account. The representatives of the Engineer-in-charge will however, mention about it in the site order Book employing the labour on the job at the contractor's cost.
- 1.12 **Full quantity of material such as paint, plastic emulsion paint, oil bound distemper etc. shall be deposited in sealed container in advance and get it checked by Engineer-in-charge before use.**
- 1.13 Shifting of furniture such as sofa table, chairs, glass etc. and making necessary arrangements to protect the furniture, carpets, and floors etc. from any spillage during the execution of work shall be done by the contractor. Any damage if done, shall be made good by the contractor at his own cost, nothing shall be paid extra in this regard.
- 1.14 No labour huts shall be allowed inside the campus of above said work. The contractors shall arrange for the stay of labours outside the campus including transport and nothing extra shall be payable on this account.
- 1.15 **TESTING OF MATERIALS**
 - a. Samples of various material required for testing shall be provide free of cost by the contractor. **All expenditure to be incurred for testing of samples e.g. packaging, sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor, and Testing shall be got done either government institute/Lab or the private lab dully approved by SDG Mumbai.**
 - b. The contractor shall produce all the materials in advance so that there is sufficient time for testing and approval of the materials and clearance before use in work. The Engineer in charge shall be at liberty to test representative sample(s) of each item of schedule of quantity in any approved laboratory as decided by him. In case of any sample of particular lot fails in testing the contractor shall be bound to replace the entire lot with fresh material of prescribed specifications. The rejected lot shall be returned to the contractor only after fresh lot is supplied.
 - c. With a view to avoid controversy about quality of cement concrete as revealed in the test results of 7 days cubes falling short of the prescribed standards by over 10% to 20% and pending testing of balance 3 cubes for 28 days as final confirmatory acceptance tests, crushed samples of cement concrete from the failed 7 days cubes should be preserved in a sealed bag.

- d. In case of concrete and reinforced concrete work, the contractor shall be required to make arrangement for carrying out crushing strength tests at his own cost. He shall render all assistance for the preparation of cubes, safe custody of the same, proper curing and carriage upto the laboratory where the test is to be performed. The cube test can be performed at any laboratory approved by the Engineer-in-charge.
- 1.16 Malba received from site shall be removed to designated site (fixed by Engineer in charge) on same day, otherwise it will be removed and a penalty of Rs. 1,000/- shall be imposed on the contractor for each day of default.
- 1.17 Before dismantling the structure / item the contractor shall bring the entire material required for particular job at site after getting the sample approved from the Engineer in charge.
- 1.18 For mixing of mortar, M.S. sheet must be used over the brick platform. Mortar should not be mixed on road or floor or on garden. In case mortar / concrete is mixed on floor or on road etc., a recovery of Rs.1000/-shall be made for each default. Malba should not be dumped over green grass /plants.
- 1.19 Splashes on the floors, walls, glasses & other places must be removed after completion of work. Glass panes must be cleaned after completion of works. In the event of failure to clean splashes the work of cleaning will be got done at the risk and cost of the agency.
- 1.20 Before starting the work the contractor shall chalk out a programme in consultation with the Junior Engineer/Assistant Engineer in charge so as to inform the occupants in advance. The contractor shall have to adhere this programme, failing which he shall be held responsible for any inconvenience caused to the occupants. In order to ensure that the work is carried out according to the programme drawn up, the contractor shall ensure adequate supply of the material and employ required labour strength for execution of work. In case contractor fails to arrange / employ adequate labour and stick to the programme, the Engineer in charge may supplement the labour at the risk and cost of the contractor after issue of one day's notice to the contractor through site order book. No claim for idle labour shall be entertained. The contractor shall put his representative daily on site of work. His name & signature shall be attested by the contractor on the record for the department.
- 1.21 ~~The contractor shall prepare one sample quarter of all items which should be got approved from the Engineer in charge. Only after acceptance of sample work, contractor will be allowed to commence the work and sample is to be preserved by contractor till the whole work is completed. The quality of work should confirm to the approved samples.~~
- 1.22 The contractor should note that the items of work in any room shall be undertaken at one time, one after the other and completed at one stretch in reasonable time allotted for the same by Engineer in charge and got noted by the Junior Engineer in charge. Any item left over in any building will be got done at his risk and cost without any further notice (other than one entry in the site order book) to the contractor after one day from the date of entry in the site order book.
- 1.23 Any damage done to the existing structure shall be made good by the contractor at his own risk and cost.
- 1.24 The contractor shall be responsible for behaviour and conduct of his worker. No worker with doubtful integrity or having a bad record shall be engaged by the contractor.
- 1.25 Anti termite chemical treatment – The work / job of anti-termite treatment shall be got done through the specialized firms.

- 1.26 Other agencies may also be simultaneously executing some other work entrusted to them by the Engineer-in-charge and the contractor shall offer necessary co-operation wherever required to these agencies so as not to interfere with or hinder the progress or completion of the work being performed by other contractor (s). He 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 leave such necessary holes, openings etc. for laying/burying in the work, pipes cables, conduits, clamps, boxes and hooks for fan clamps etc. as may be required for the other agencies. Nothing extra over the Agreement rates shall be paid for doing these.
- 1.27 Water shall be arranged by the contractor at his own cost and shall be tested as per frequency mentioned in the CPWD specifications. The Agency will have to make arrangement for storage of water at site under renovation/ upgradation, by keeping suitable size PVC tanks at appropriate place. The contractor must submit a written proposal along with the water source details and sample of water for testing prior to commencement of work. Upon receiving approval from Engineer-in-Charge, the agency must provide GST paid vouchers with each Running Account (R/A) & Final Bill as proof of water procurement. In case of failure of Agency to produce the same, a non-refundable deduction of 1% water charge will be applied to the gross work done. The Agency will be responsible for the storage & transportation of water at the site, and no extra payment will be made for these arrangements. The Engineer-in-Charge's decision regarding the approval of water source and procurement of water at site will be conclusive and binding on the contractor.
- 1.28 Samples of all materials and fittings to be used in the work in respect of brand manufacturer and quality shall be got approved from the Engineer-in-Charge, well in advance of actual execution and shall be preserved till the completion of the work. Articles bearing BIS certifications mark shall only be used unless no manufacturer has got BIS mark for the particular material. Any material/fitting whose sample has not been approved in advance and any other unapproved material brought by the contractor shall be immediately removed as soon as directed. Unless otherwise specified in the schedule of quantities the rates for all items shall be considered as inclusive of pumping/baling out water, if necessary, for which no extra payment shall be made. Those conditions shall be considered to include water from any source such as inflow of flood, surface and sub-soil water etc. and shall apply to the execution in any season.
- 1.29 Letter for submitting sample(s) for testing of material shall be sent through e-mail to the Lab by authorized representative of Engineer-in-Charge or Engineer-in Charge of the work along with name(s) of test(s) to be done on the material'. The contractor shall collect the sample(s) from the site and submit it to the lab; make necessary Payment for the testing charges. He will inform on the same day through email to authorized representative of Engineer-in-Charge and Engineer-in-charge regarding submission of sample (s) and payment made to the lab. if he either fails to collect or submit the sample(s) to the lab within 03 days or in time as prescribed in the specifications, whichever is earlier, the Engineer-in-Charge shall collect and submit the sample(s) and make necessary payment for testing charges to the lab, In such case, Engineer-in-Charge shall make recovery on account of collection and submission of sample(s) to the lab and paid testing charges etc. from the next R/A bill / Final bill of the contractor. This action of Engineer-in-Charge shall be final and binding.

- 1.30 There shall be no deviation beyond contract amount without written communication from Engineer-in-Charge to the contractor.
- 1.31 All waste or superfluous materials shall be carried away by the contractor without any reservation entirely to the satisfaction of the Engineer-in- Charge.
- 1.32 In case of occurrence of Non Schedule Extra Item(s) , The contractor, shall within fifteen days of the receipt of order to execute extra item(s) or occurrence of the item(s), submit analysis of rate of extra item(s) based on the rate(s) of material(s) available in basic rate of Standard Schedule of Rate mentioned in schedule F and rate(s) of the material(s) based on tax paid bills which are not available in standard Schedule of Rate mentioned in schedule F. For this purpose, the basic rate of material(s) available in Schedule of Rate(s) mentioned in Schedule F will be enhanced or reduced by the applicable cost index, as the case may be. The rate(s) of the material(s) which are not available in Standard Schedule of Rates, mentioned in Schedule F, shall be based on, tax paid bill(s) for the material(s) as defined in manufacturer's specification. Material rate(s) from Standard Schedules of Rate(s) shall be given priority in the analysis of rate(s).
- 1.33 However provisional rate(s) on the basis of invoice will be allowed by the Engineer-in-Charge. invoice shall be accepted only for material(s) not available in the Standard Schedule of Rates mentioned in Schedule F. The contractor while submitting the tax paid bill of purchased material(s) shall ensure that rate(s) of the materials are reasonable and lowest available in the market. If Engineer-in-Charge feels rates in tax paid bill(s) submitted by contractor are not reasonable then he can modify the rate(s) after giving a notice to the contractor. Engineer-in-Charge is the final authority to decide applicable rate(s) of material(s).

SPECIAL CONDITIONS

1. The contractor (s) shall make his own arrangements for water and electricity required for the execution of work.
2. Cement & Steel Reinforcement shall be arranged by the contractor himself.
3. All the malba or rubbish obtained from dismantling or otherwise during the execution of the work shall be brought down through the stair case. Lifts shall not be used for this purpose and shall not be thrown to the ground directly from first floor or second floor etc. Malba/ rubbish generated due to any operation from the building and there upon whatsoever shall be disposed off on daily basis by the contractor to the specified common disposal point. After the collection of full truck load of the said malba/rubbish (approx 4.5 cubic metres), the same shall be disposed off on same day by the contractor to the to “C & D waste management site nearest Municipal approved **(Payment of removal of malba/building rubbish etc. shall be made only on the basis of Local Civic Body receipt submitted by the agency & production of receipt of payment made to local body at dumping ground)**. Failing which the same shall be got removed by the Engineer-in-charge and the cost so incurred on the removal of the same shall be recovered from the contractor’s bill.
4. 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 structure for staff/ store in the campus.
5. Contractor shall be fully responsible for any damages caused to govt. property by his or his labour in carrying out the work and shall be rectified by the contractor at his own cost.
6. All the materials, fixtures, fittings etc. shall be of the best quality and shall be of approved make and manufacture (wherever specified) as defined in the item of work or defined anywhere in this document otherwise shall be of ISI mark as mentioned in the CPWD specifications duly approved by the Engineer-In-Charge.
7. All materials brought by the Contractor for use in work shall be got approved from the Engineer-in-charge of Civil work or his authorized representative of the work.
8. The contractor shall procure the required materials in advance so that there is sufficient time for testing of the materials and clearance of the same before use in the work.
9. All the materials shall be got checked by the Engineer-in-charge or by his representative of the work on receipt of the same at site before use.
10. The contractor shall provide at his own cost suitable weighing and measuring arrangements at site for checking the weight /dimensions as may be necessary for execution of work. The sealed samples are to be handed over to the testing lab by contractor in the presence of Junior Engineer-in-charge of work.
11. Samples for particular items of work shall be prepared, where so specifically desired by Engineer-in- charge, for prior approval of the Engineer-in-charge, before taking up the same on mass scale and nothing shall be payable on this account.

12. Sample of building materials, fittings and other articles required for execution of work shall be got approved from the Engineer-in-Charge before use in the work. The quality of samples brought by the contractor shall be judged by standards laid down in the CPWD Specifications or the relevant BIS code. All materials and articles brought by the contractor to the site for use shall conform to the samples approved by the Engineer-in-Charge which shall be preserved till the completion of the work. The list of approved makes of material is given for guidance.
13. BIS marked materials except otherwise specified shall 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. Wherever BIS marked materials are brought to the site of work, the contractor shall, if required, by the Engineer-in-Charge, furnish manufacturer's test certificate or test certificate from approved testing laboratory to establish that the material / procured by the contractor for incorporation in the work satisfies the provisions of specifications/ BIS codes relevant to the material and / or the work done.
14. Factory made shutter, as specified shall be obtained from factories to be approved by the Engineer-in-charge & shall conform to relevant Indian Standards. The contractor shall inform well in advance to the Engineer-in-charge, the names and address of the factory from which the contractor intends to get the shutters manufactured. The contractor will place order for manufacture of shutters only after written approval of the Engineer-in-charge in this regard is given. The contractor is bound to abide by the decision of the Engineer-in-charge & recommend a name of another factory from the approved list in case the factory already proposed by the contractor is not found competent to manufacture quality shutters. Shutters will, however, be accepted only if this meet the specified tests. The contractor will also arrange stage wise inspection of the shutters at factory to the Engineer-in-charge or his authorized representative. Contractor will have no claim if the shutters brought at site are rejected by Engineer-in-charge in part or in full lot due to bad workmanship and quality. Such shutters will not be measured & paid and the contractor shall remove the same from the site of work within 7 days after the written instruction in this regard are issued by Engineer-in-charge or his authorized representative.
15. **Condition for cement:-**
 - 15.1 Cement required for the work shall be procured by the contractor.
 - 15.2 The contractor shall procure 43 grade OPC conforming to IS: 8112-1989 or PPC conforming to IS: 1489 as required in the work from reputed manufacturers of cement having a production capacity of One million tones per annum as per approved make list. Supply of cement shall be taken in 50-kg bags bearing manufacturer's name, or his registered trademarks if any and grade and type of cement as well as ISI marking. The packing of the cement bags shall be as per CPWD specifications 2019.
 - 15.3 Every delivery of cement shall be accompanied by producer's certificate confirming that the supplied cement conforms to relevant specifications. These certificates shall be endorsed to the engineer in charge for his record.
 - 15.4 The cement shall be brought at site in supply of approximately 5 tonnes or more as decided by the Engineer-in-charge.

- 15.5 Cement store shall be provided with a single door with two locks. The keys of one lock shall remain with CPWD Engineer-in-charge or his authorized person and that of other lock with the authorized agent of 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.
- 15.6 The contractor shall be responsible for the watch and ward and safety of the cement go down. The contractor shall facilitate the inspection of the cement go down by the Engineer-in-Charge at any time.
- 15.7 Samples of cement arranged by the contractor shall be taken by the Engineer-in charge and got tested in accordance with provisions of relevant BIS codes as and when testing required by Engineer-in- Charge. In case test results indicate that the cement arranged by the contractor does not confirm 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.
- 15.8 The contractor shall supply free of charge cement required testing. The cost of tests shall be borne by the contractor and test result should confirm to BIS code.**
- 15.9 The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract
- 15.10 The theoretical, consumption of cement shall be worked out as per procedure prescribed in clause 38 of the contract and shall be governed by conditions laid therein. No payment for excess consumption of cement will be allowed.
- 15.11 Cement / steel brought to site and remaining unused after completion of work shall not be removed from site without written permission of the Engineer-in-charge.
16. The contractor shall get the source of various raw materials namely aggregate, cement, sand, water etc. to be used on the work, approved from the Engineer-in-Charge and trial mixes for controlled concrete shall be done using the approved materials. The contractor shall stick to the approved source unless it is absolutely unavoidable. Any change shall be done with the prior approval of the Engineer-in-Charge for which tests etc. shall be done by the contractor at his own cost.
- 17. Sand to be used for cement concrete work, mortar for masonry and plaster work shall be of standard quality and shall be obtained from the source approved by the Engineer-in-charge and screened, if required. The same shall consist of hard siliceous material. It shall be clean sand.**
18. Royalty at the prevalent rates shall have to be paid by the contractor on all the building metals, shingle, sand and bajari etc. collected by him for the execution of the work, directly to the Revenue authority or authorized agent of the state Govt. concerned or Central Govt.

19. All sub-standard material rejected shall be removed from the site immediately and department will not be responsible for the safe custody of the same. In case of failure the same will removed from the site of work at the cost of the contractor. **Nothing extra shall be payable for using extra mortar for achieving smooth and even surface for plaster work and extra cement shall not be considered for cement consumption on this account.**
20. **Nothing extra shall be payable for using combination of marble, granite, kota, sand stone slabs & ceramic tiles etc. in the required pattern at various locations.**
21. **Nothing extra will be paid for the additional thickness of bed mortar that will be required to achieve uniform finished surfaces on account of difference in specified thickness of marble, granite, Kota stone, sand stone & ceramic tiles etc.**
22. Any cement slurry, required to be added over base surface for bond or for continuation of concreting, 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.
23. Flooring in toilets, verandah, kitchen, courtyard etc. shall be laid to the required slope/gradient as per the directions of the Engineer-in-Charge.
24. The pattern, spacing and locations of joints shall be as per drawings and direction of the Engineer-in-Charge.
25. **The water proofing items shall be got done through the specialized firms approved by the Engineer –In- Charge.**
26. 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 shall be payable on this account.
27. 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.
28. The contractor shall have to carry out the work according to approved programme duly approved by the competent authority. The contractor shall not carry out any work in any building without permission of the Engineer-in-Charge. The contractor shall have to adhere this programme failing which he shall be wholly responsible for any inconveniences caused to the occupants. No claim for idle labour on any account shall be entertained. The contractor shall depute his representative daily to the site of work. His name and signature shall be attested by the contractor for record in the department.
29. The contractor shall prepare one sample of item which shall be got approved from the Engineer-in-charge. Only on acceptance of sample, contractor will be allowed to

commence the work and sample is to be preserved by the contractor till the whole work is completed. The quality of entire work should confirm to the approved sample.

30. Any damage to the building structure, fittings or any other articles etc. done by the contractor or his workman during the execution of the work shall be made good by the contractor at his own cost and nothing extra will be paid on this account. However, if contractor fails to attend the same, the same will be made good by the Engineer-in-Charge at the risk & cost of the contractor.
31. Any damage to work resulting from weathering conditions, defacing or from any other cause such as negligent act on the part of contractor, until the work is taken over by the Department after completion of work, shall be made good by the contractor at his own cost.
32. The paints/ other materials shall be issued by the Junior Engineer/ Assistant Engineer to the contractors after breaking the seal of the containers/ packing and quantity to be issued shall be as per the daily requirement at the site. After days use balance quantity of paints etc., if any left will be returned by the contractor to the Deptt. After use, the empty container shall have to be returned to the Department, and these shall be the property of Department. The empty container shall be preserved by JE of site-In-charge and will not be disposed of till the completion of the work.
33. Nothing extra shall be paid to the contractor for excess consumption of material.
34. **The contractor and/ or his authorized agent should see the site order book every day and get the compliance noted by the Junior Engineer/ Assistant Engineer/ Engineer-in-Charge.**
35. The theoretical consumption of materials like satna lime, distemper, paint, water proof cement paint etc. shall be computed, as per the consumption of co-efficient of DAR 2023. In case of variation between the actual and the theoretical calculations action shall be taken as below:
 - (a) For the materials to be arranged by the contractor: - In case the materials used other than mentioned Schedule F under clause 12 is less than theoretical requirements the cost for the material used less shall be recovered from the contractor at the basic rate as given in D.S.R. 2023 plus carriage plus 1% W.C. plus 15% contractor profit and over heads plus contractor's enhancement/abatement as per clause 12 of the agreement. For all excess use of materials over the theoretical consumption no extra payment shall be made to the contractor:
36. The contractor shall give a performance test of the entire installation(s), as per standing specifications, before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.
37. The work pertaining to the items of internal finishing should be started in consultation and with prior approval of Engineer-in-Charge as soon as the structure/other items of work are completed.

38. Before taking up demolition work, contractor has to arrange materials in advance and thereafter permission for dismantling/demolition work will be given.
39. **All materials required for work i.e. Floor tiles, Wall tiles, cement, sanitary items etc shall be brought at site in full quantity by the agency and the bills/vouchers will be submitted by the Agency at the same time.**
40. **The contractor shall make all the wooden & steel door/windows functional in all areas wherever work is carried out, by checking & repairing of all existing doors, windows, ventilation cupboard etc. including fitting required for its smooth functioning. (only fittings like handle, tower bolt, sliding door bolt, hinges, glass panes, beading, if required/replaced shall be paid separately as per BOQ provision).**
41. **The contractor is required to submit all the purchase voucher/invoice, indicating the amount of GST paid, duly signed by him of all the materials like Cement, Steel, Paint, Putty, Distemper, C.I/G.I pipes, Granite, Flush door, Boards/Ply, Structural Steel, Tiles, Sanitary Installations, CPVC/PVC pipes etc. during the submission of R.A./Final bill or as directed by the Engineer-in-charge.**
42. **NGT guidelines during execution of work should be followed. Nothing extra shall be payable for this.**

List of Specialised Items (Civil) & Criteria for approval of Specialised Agencies

1. Structural repairs and rehabilitation/retrofitting work.
2. Water proofing work
3. Post construction Anti-termite treatment
4. Items as decided by Engineer-in-charge

Procedure for Execution of the Specialised Items:

Such items should be got executed only through associated agencies specialised in these fields. The contractor shall indicate the name(s) of his associated specialised agencies those fulfilling the below mentioned eligibility conditions as early as possible and within 15 days of award of work to Engineer-in-Charge for approval of competent authority.

Specialised Agencies for relevant works shall be approved by the competent authority. The contractor shall quote the rates after careful study of contract conditions, specifications, drawings & schedule of quantities.

It shall be the responsibility of main contractor to sort out any dispute / litigation with the Specialised 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 Specialised Agencies. The contractor shall ensure that the work shall not suffer on account of litigation / dispute between him and the specialised agencies. 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 Specialised Agencies.

The Criteria for approval of specialised agencies will be as under in respect of the relevant specialisation.

The specialised firms should satisfy the following eligibility criteria:

Experience of having successfully completed similar works during the last seven years ending last day of month previous to the one in which tenders are invited.

- a) Three similar completed works each costing not less than 40% of the estimated cost put to tender of the relevant specialised item / items, or
- b) Two similar completed works each costing not less than 60% of the estimated cost put to tender of the relevant specialised item/ items, or
- c) One similar completed work costing not less than 80% of the estimated cost put to tender of the relevant specialised item / items.

CONDITIONS FOR CEMENT & STEEL

- 1 The contractor shall procure Ordinary Portland cement 43 grade conforming to IS: 8112 or PPC conforming to IS: 1489 to require in the work as specified in the approved make list. Supply of cement shall be taken in 50 kg bags bearing manufacturer's name and ISI marking except for concrete from RMC producer where bulk cement can be procured. Samples of cement arranged by the contractor shall be taken by the Engineer in Charge and got tested 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. Only the cement with satisfactory test results shall be allowed to be used in the work.
- 2 The cement shall be brought at site in bulk supply of **5 tonnes** or as decided by the Engineer in Charge.
- 3 **The contractor shall make his own arrangement for storage of cement and will store the cement as per CPWD Specifications.** Double lock provision shall be made to the door of the cement go-down. The key of one lock shall remain with the Engineer in Charge or his authorized representative and the key of the other lock shall remain with the contractor. The contractor shall be responsible for the watch and ward and safety of the cement go-down.
- 4 The contractor shall supply free of charge the cement required for testing and shall also bear the packing, sealing, transportation & other incidental charges. The testing charges of approved laboratory shall be borne by the contractor.
- 5 The cement shall be got tested by the Engineer-in-Charge and shall be used on the work only after satisfactory test result have been received.
- 6 The day to day actual issue/receipt and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of cement shall be worked out as per the procedure prescribed in clause 38 of the contract and shall be governed by conditions laid therein.
- 7 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.
- 8 The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract.
- 9 OPC 43 Grade cement should be used for all RCC/Structural repairs and rehabilitation work, integral water proofing carrying work and separate entry in MAS / Cement Register should be maintained on different pages to regulate the actual issue and consumption of cement for work as provided in clause 10 of the contract.

STEEL REINFORCEMENT:

1. The agency shall procure and use Fe 500D CRS grade reinforcement steel bars confirming to relevant IS codes as presently applicable and any further amendments issued during & upto the period of execution/completion in compliance with relevant provisions contained in CPWD OM No. CSQ/SE(TAS)/Steel/2024/262-H dated 14.08.2024 (Appendix -VIII) – “ Guidelines for use of TMT steel / Low Alloy Steel reinforcement Bars in CPWD works and enlistment of

the steel manufacturers in respect of TMT steel / Low Alloy / Corrosion resistant Steel Reinforcement bars in CPWD”. The producers of such Steel reinforcement bars shall be as per “Preferred makes of the materials given in this tender document. For lapping of steel reinforcement bars above 12 mm diameter, mechanical couplers of appropriate make and design shall be used.

2. For reinforced cement concrete or pre-stressed concrete works, the reinforcement bars shall consist of the following grades conforming to IS: 1786 : 2008 (Indian Standard specification for high strength deformed steel bars and wires for concrete reinforcement of grade Fe 500D).
3. The contractor shall obtain manufacture’s certificate stating the process of manufacture, chemical composition and test sheet giving result of each mechanical test applicable to the material purchased and submit it to the Engineer in charge. Each test certificate shall indicate the number of the cast to which it applies, corresponding to the number or identification mark to be found on the material.
4. The Engineer in charge or his authorized officer shall get each consignment tested for both chemical composition and physical properties (including bend and re-bend test) as specified in IS:1786 from NABL accredited laboratory or any Government Laboratory.
5. The contractor shall have to obtain and furnish test certificates to the Engineer-in- charge in respect of all supplies of steel brought by him to the site of work.
6. 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, 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 or written orders from the Engineer-in- Charge to do so.
7. The steel reinforcement shall be brought to the site in bulk from manufacturers along with test certificate of each lot supply of 10 MT or more or as decided by the Engineer-in-Charge.
8. The steel reinforcement 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.
9. 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:

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

10. All expenditure to be incurred for testing of samples e.g. supply of material, packaging, sealing, transportation, loading, unloading, etc. including testing charges shall be borne by the contractor.

11. The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in the format provided in this document of the contract. The theoretical consumption of steel shall be worked out as procedure prescribed in clause 38 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.
12. Steel brought to site and steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge.
13. The contractor shall submit original vouchers from the manufacturer for the total quantity of steel supplied under each consignment to be used in the work. All consignment received at the work site shall be inspected by the Site staff along with the relevant documents before acceptance. The contractor shall obtain Original Vouchers and Test Certificates and furnish the same to the Engineer-in-Charge in respect of all the lots of steel brought by him from approved supplier to the site of work. The original vouchers and test certificates shall be defaced by the Site staff and kept on record in the site office.
14. The standard sectional weights referred to as in Table 5.4 in para 5.3.4 in CPWD Specifications will be considered for conversion of length of various sizes of M.S. Bars, Steel Bars and T.M.T. bars into Standard Weight.
15. Records 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. However, for the stipulated issue of steel reinforcement up to and including 10mm diameter bars, the actual weight of steel issued shall be modified to take into account the variation between the actual and the standard coefficients and the contractors' accounts will be debited by the cost of modified quantity.
16. (a) If the Derived Weight as in sub-para above is less than the Standard Weight as in Sub-para above then the Derived Actual Weight shall be taken for payment provided, if it is within the following tolerances specified in IS1786-2008, otherwise whole lot will be rejected.

Tolerances on Nominal Mass

Nominal Size in mm	Batch	Tolerance Nominal mass Percent	
		on Individual Sample*	Individual sample for coil**
Upto and including 10	$\pm 7\%$	-8 %	$\pm 8\%$
Over 10 upto and including 16	$\pm 5\%$	-6 %	$\pm 6\%$
Over 16	$\pm 3\%$	-4 %	$\pm 4\%$

* For individual sample plus tolerance is not specified.

** For coils batch tolerance is not specified.

- (b) If the Derived Actual Weight is found more than the Standard Weight, the Standard Weight as per in sub-para above shall be taken for payment. In such case nothing extra shall be paid for the difference between the Derived Actual Weight and the Standard Weight.
17. The contractor shall procure all the steel well in advance so that there is sufficient time to testing and approving of the materials and clearance of the same before use in work.

18. All materials brought by the contractor for use in the work shall be got checked from the Engineer-in-Charge or his authorized representative of the work on receipt of the same at site before use.
19. The contractor shall also employ necessary watch and ward establishment for the safe custody of materials at his own cost.
20. Contractor has to produce manufacturers test certificate for each lot of steel procured at site.
21. The following procedure shall be followed in case of removal of rejected/sub- standard materials from the site of work.
 - i) Whenever any material brought by the contractor to the site of work is rejected, entry thereof should invariably be made in the site order book under the signature of the JE/AE/AEE giving approximate quantity of such materials.
 - ii) As soon as the material is removed, a certificate to that effect may be recorded by the JE/AE/AEE against the original entry, giving the date of removal a mode of removal i.e. whether by truck, carts or by manual labour. If removal is by truck, the registration number of the truck should be recorded.
 - iii) When it is not possible for the JE/AE/AEE to be present at the site of work at the time of actual removal of the rejected/sub-standard materials from the site the required certificate should be recorded by the Junior Engineer and the AE/AEE should countersign the certificate recorded by the Junior Engineer.

PARTICULAR SPECIFICATIONS FOR REPAIR WORK

1. Adequate care should be taken by the contractor while dismantling, chiseling, demolishing work, drilling etc. that impact/vibrations are minimum for considerations of structural safety and also for inconvenience caused to the users of the building. Perimeter of unsound concrete area shall be marked by making shallow cut on cover concrete with cutter machine to reduce the impact of chiseling. Rates shall cover cost of all inputs of material, labour; T&P etc. involved all the operations in the work.
2. Dismantling and repair work of any type like plaster, flooring, concrete, RCC, Brick work, GI/CI pipes, water proofing etc. shall be for all heights and all levels unless specifically mentioned in the item and no claim for extra cost shall be entertained on this account.
3. Sequence of strengthening work shall be as under:
 - a. Strengthening of Structural member shall be carried out from bottom to top onward.
 - b. Guniting repaired structural members shall be allowed to attain at least 7 days strength before any load is transferred to that member.
4. For removal of all type of loose / delaminated / damaged / weak cement plaster from the surface of masonry or concrete, a cut normal to the surface all along the boundaries, in regular shape shall be made not to exceed plaster thickness. Then plaster shall be removed completely to expose the parent masonry or concrete surface so as not to have any traces of such plaster left. For brick work, the joints have to be properly raked and cleaned as per CPWD specifications. The plaster should be dismantled without causing any damage to brick work.

5. CHIPPING/ DISMANTLING OF UNSOUND/ WEAK CONCRETE & PREPARATION OF SUBSTRATE:

- 5.1 The perimeter of unsound / weak concrete / delaminated layer of guniting shall be sawcut to a minimum depth of required as per site requirement square/rectangular shape at normal (orthogonal) to the surface of member. Then concrete shall be removed by chipping with standard power-driven percussion type or pneumatic chisel of standard make from the demarked area including tapering all edges, making square shoulders of cavities etc. complete (after properly supporting the member with false works). The chipping shall be done in regular shape, with sides parallel or normal to the direction of the reinforcement and minimum 50mm beyond the perimeter of the spall for single spall, the repair area should have a minimum width of 100 mm in direction. If a number of spalls are closely located to each other, these should be included in a single area marked for repair.

5.1.1 Exposing of rusted/corroded reinforcement:

Reinforcing bar must be further exposed if the remaining concrete is debonded from the reinforcing bar. Chipping around the reinforcing bar shall be continued to completely expose it, if more than half of reinforcing bar perimeter has been exposed. Concrete shall be removed from all around reinforcement including from

behind the reinforcing bars to give an average 25mm (but not less than 10 mm clear air gap) by using standard power-driven percussion type or pneumatic chisel of standard make.

- 5.2 Adequate care is to be taken not to cut the reinforcement steel and a cover meter could be used to estimate the depth of cover, for which nothing extra shall be paid.
 - 5.3 Chipping should be done up to the required depth as decided by the' Engineer-in-Charge to reach sound concrete substrate to a near uniform depth for the repair areas.
 - 5.4 Dimensions of area chipped off for RCC slabs, beams, columns etc. shall be measured in centimeters after the chipping / dismantling operation is completed. The area of the chipped / exposed RCC surface shall be measured in sq. m. correct to second place of decimal.
 - 5.5 For the RCC members to be completely dismantled, pre-measurement of the dimensions of RCC member to be dismantled shall be recorded before taking up the dismantling operation and volume of concrete dismantled shall be worked out in cubic meters correct to second place of decimal.
 - 5.6 Removal of concrete should begin at the interior of the repair areas and progress towards the boundaries. All edges and cavities shall be square shouldered.
- 6. CUTTING OF EXISTING REINFORCEMENT**
- 6.1 The existing reinforcement bars to be cut shall be identified and approved for cutting by the Engineer-in-Charge.
 - 6.2 The reinforcement shall be carefully cut with electrical cutter machine to minimize excessive vibrations or damaging the structure and the recovered reinforcement should be straightened, cleaned of concrete by wire brush scrapped and stacked properly with in a lead of 50 meters as directed by the Engineer-in-Charge.

7 CLEANING OF EXISTING REINFORCEMENT

- 7.1 Before re-casting/ jacketing of members or repairs to members with polymer modified mortar, the reinforcement has to be cleaned properly, as specified.
- 7.2 At first rust shall be removed from the surface of the reinforcement manually using chisels, wire brush, emery paper etc. as directed by Engineer-in-Charge at no extra cost, till the steel surface is cleaned off loose rust.
- 7.3 Then sulphate and chloride free (Alkaline) chemical rust remover, as approved by the Engineer-in-Charge shall be applied with paint brush over the reinforcement surface thoroughly along the full length of rusted reinforcement. After 24 hours of its application the surface shall be cleaned with wire brush to remove all loose particles.

7.4 Rates shall include cost of all materials, labour, T&P etc. involved in all the operations.

8. ADDITIONAL REINFORCEMENT BARS: -

For introducing additional reinforcement bars for new structural connections or supplementing additional steel area to the existing RCC member as per the direction of Engineer-In-Charge after visual inspection, the cross-sectional area (diameter and no. of bars) and length required shall be approved by the Engineer-in-Charge. Also, the depth of embedment of reinforcement bar shall be approved by the Engineer-in-Charge. The holes of specified diameter and depth have to be bored with diamond or hammer drill machine in RCC. Diameter of the hole shall be 4mm larger than dia of dowel bar. The bored hole in dry state, shall be cleaned with round brush and by blowing air through a tube inserted in the hole and connected to hand operated blower. Depth of holes shall be checked by the field staff by inserting rod marked with standard length.

Then, epoxy shall be injected from foil pack with help of epoxy dispenser and epoxy cartridge holder and disposable PVC mixing nozzle inserted inside the drilled hole to fill it from bottom/end of hole and slowly withdrawing the pipe while injecting epoxy till mouth of hole to ensure no air void is left inside the hole. Then dowel bar shall be inserted by pressing and turning till end of the hole is reached and shall be allowed to remain undisturbed as per manufactured specification for epoxy to be air cured.

Rates shall include cost of all inputs of material, labour and T&P etc. involved in all the operational except the cost of reinforcement.

8.1 WELDING ADDITIONAL REINFORCEMENT:

In case cross sectional area of an individual bar of RCC slab has been reduced by 30% or more, then additional reinforcement shall be welded with existing bar to ensure continuity of the reinforcement of equal strength of original bar as illustrated in the sketch. If any existing reinforcement bar is found displaced/loosened, same shall be secured at its design location.

9. SHEAR KEYS: -

Shear keys shall also be provided in similar manner as illustrated in para 8.0 above. The shear key bars cut and bent to the required shape shall be embedded in parent concrete to a minimum depth of as specified in the item. Rates shall include cost of all materials, labour and T & P etc. involved in all the operations but excluding the cost of reinforcement.

10. CLEANING OF EXPOSED RCC/ CONCRETE SURFACE, INSERTING NIPPLES AND INJECTION GROUTING: -

10.1 The final chipped off concrete surface and exposed reinforcement, if any of the affected structural member should be cleaned off all loose and foreign materials by free air blast and then with water and allow it to dry.

- 10.2 For the honey combed portion of the concrete or cracked concrete, drill holes of dia 20 to 30 mm in diameter and depth up to 30 to 80 mm or behalf the member thickness whichever is less, at the required spacing, as directed by the Engineer-in-Charge.
- 10.3 For cracked surface open up cracks by making V notch or groove of size 12 mm x 12 mm as directed by the Engineer-in-Charge.
- 10.4 Remove coarse debris and dust in opened up cracks and drilled holes by blowing air with hand operated blow out pump. Concrete surface required to be grouted shall be free from all loose and unsound material. The prepared surface should be clear of dust which could obstruct tree flow or grout material and also impede its bonding with concrete surface. Saturate the concrete in vicinity of crack / honey combed concrete surface with water (but without excess water) only if the cementations / polymer admixed grout to be injected.
- 10.5 Insert 12 mm diameter specified injection nipples in holes drilled along cracked lines or in honey combed area of concrete and fix them by sealing on its sides with or polymer modified mortar, as directed by the Engineer-in-Charge.
- 10.6 Seal the crack around the nipple or the honey combed surface by means of epoxy mortar or polymer modified mortar, as approved by the Engineer-in-Charge. The polymer used shall be of approved grade and polymer modified mortar shall be applied as per specifications mentioned separately for polymer modified mortar. The polymer modified mortar shall be moist cured for 3 days and allowed to gain strength before actual grouting commences.
- 10.7 To inject grout in nipples, the cementious grout shall be prepared from cement (OPC-43 grade), sand (sharp, washed well graded generally conforming to zone IV of IS: 383) and water conforming of IS: 456 mixed in specified proportions or Epoxy injection grout asper description of item as directed by the Engineer-in-Charge.
- 10.8 The emulsified acrylic polymer shall be as specified and shall conform to manufacturer's specification. The physical and mechanical properties of polymers shall conform to manufacturer's specification. One test shall be carried out mandatorily for every lot of acrylic polymer supplied at site, before use in the work.
- 10.9 The grouting equipment shall be capable of supplying mixing, stirring and pumping grout to the satisfaction of Engineer-in-Charge. It shall have capacity to inject grout at a pressure up to 7 kg / sq. cm measured at grout connections. It shall be capable cement ratio ranging from 0.5 to 1.0.
- 10.10 Wherever epoxy is to be used the surface of the concrete shall be dried with air blast, before grouting or applying epoxy.

- 10.11 The cementitious grout in proportion as directed by the Engineer-in-Charge shall be prepared. It should be lump free of creamy consistency, thoroughly blended and shall be continuously stirred to keep the cement particles in suspension to retain uniform consistency in grout is injected.
- 10.12 In case of vertical cracks the injection shall be started at the lowest nipple and continued until the injected grout begins to flow out at the next higher nipple. The first nipple shall then be closed and injection continued from second until grout flows out at the third and so on. The process shall be repeated until the whole surface is treated. As soon as the system is cured, the nipples shall be suitably cut.
- 10.13 In case of honey combed concrete, each grout hole shall be grouted individually. The sequence of injection shall be as per the directions of the Engineer –in-Charge.
- 10.14 The measurement of grout material shall be on the basis of only the weight of cement consumed in kg or weight of Epoxy grout.
- 10.15 Pre measurements of the quantities of such grouting materials brought at site and balance quantities remaining at the end of grouting application shall be recorded separately which will determine the quantity of grout material actually injected. Adequate care is to be taken by the contractor as not to waste the grout. The quantity which can be consumed immediately within the prescribed time limit as per manufacture specification only shall be prepared in batches.
- 10.16 The quantity of grout material wasted, discarded, hardened shall not qualify for payment and shall be recorded for deduction at the end of each operation.

11. **BOND COAT**

- 11.1 Bond coat is required to be applied for adhesion of applied repair concrete or mortar to the parent concrete. For this, the surface should be thoroughly cleaned by brushes and by blowing air from hand operated pump. The surface shall then be saturated with water minimum 1 hour before application of bond coat and allow surface to attain saturated surface dry condition (SSD).

11.2 **PREPARATION OF BOND COAT:**

The components of bond coat shall be weighed batched and mixed in specific proportions as indicated in the item. Area of chipped concrete surface shall be assessed roughly. Accordingly required quantity of acrylic polymer for bond coat shall be taken in a plastic bucket/mini drum then proportional quantity of OPC 43 grade cement by weight (as per manufacturer's specifications) shall be blended slowly under continuous stirring with low speed (500 – 800 rpm) electric stirrer for minimum 2 minutes till a homogenous and lump free slurry is formed. In no case bond coat slurry shall be prepared without electric stirrer at site.

- 11.3 The specified bond coat shall be applied by stiff nylon bristle brush. The bond coat shall be worked well onto the concrete surface of the parent concrete including reinforcement surface ensuring that no pinholes are left. The polymer modified bonding cement slurry shall be applied to a thickness not more than 2mm. Bond coat shall be allowed to reach tacky condition before applying polymer modified mortar or pouring concrete jacket. (Area of exposed RCC unit shall be measured in sqm correct to two decimal places for the purpose of payment).
- 11.4 Prefabricated shuttering shall then be erected immediately. Fresh concrete / mortar shall be placed / applied while the bond coat is still tacky and well within pot-life / setting period. If adhesive cures to the extent of losing its tack or has set before concrete / mortar is placed / applied, the same shall be removed or slightly abraded and another coat of adhesive / bond coat shall have to be applied by the contractor at his own cost.
- 11.5 Freshly placed concrete shall be thoroughly consolidated to ensure full bonding of the fresh concrete with the parent concrete. If there is a failure of bond of fresh concrete/ plaster with parent concrete surface and it sounds hollow on tapping, the repair work shall be dismantled and redone by the contractor at his own cost and to the entire satisfaction of the Engineer-in-Charge. CPWD specifications for manufacture and placing and curing of concrete shall, in general, be followed unless specified otherwise.

12. ADDITIONAL REINFORCEMENTS FOR GUNITING/ JACKETING WORK:

- 12.1 The existing reinforcement bars in the R.C.C. member to be gunited shall be cleaned properly to remove all scales and rust by wire brushing and by rubbing with sand paper, sandblasting wherever possible etc. complete as directed by the Engineer-in-Charge.
- 12.2 The additional reinforcement shall be provided to hold gunited material/concrete in position and shall be so fixed that it is creased in succeeding layer.
- 12.3 The additional reinforcement, if required, as per the directions of the Engineer-in-Charge, shall be placed in position including cutting, straightening, binding and fixing. in position by fixing into the existing concrete by fastening to shear keys and should be secured rigidly so that it does not belly out or get displaced during guniting jacketing work. The mesh reinforcement shall be fixed in a manner so that it is firmly held at least 12mm away from the parent concrete as well as final finished surface. Also, clear spacing between the reinforcement bars shall not be less than 50mm.

12.4 Additional reinforcement if required shall be tied with required lap using G. I. binding wire or welded to the parent reinforcement and also to the shear keys in a staggered manner as directed by the Engineer-in-Charge.

12.5 Additional vertical reinforcement shall be anchored to the base of the column by boring hole of diameter 4 mm larger than the dia of reinforcement bar for a depth of 12 times the dia of the bar and secured it in the hole with epoxy as per standard procedure described in para no – 8

14. **POLYMER MODIFIED MORTAR: -**

14.1 Preparation of polymer modified mortar at site (PMM):

Polymer modified mortar shall be prepared with OPC 43 grade cement and graded quartz sand admix with acrylic polymer. The graded coarse sand shall be obtained from mixing of 3 different grades of quartz sand at site in following proportion by weight/volume.

Quartz sand of grade 8 x 16 (coarse) = Z1

Quartz sand of grade 16 x 30 (medium) = Z2

Quartz sand of grade 30 x 80 (fine) = Z3

Desired proportion of Z1:Z2: Z3 = 8:3:4

Sufficient quantity of graded quartz sand shall be prepared before mixing of mortar. The same ratio shall be maintained throughout the execution of structural repair work. Area of chipped concrete surface shall be assessed roughly. Accordingly required quantity of acrylic polymer mortar shall be prepared for repair of RCC which can be applied within half an hour. Quantity of all components shall be found out as per theoretical consumption given in the item as per different manufacturers' specification. Calculated quantity of graded coarse sand and specified proportion of OPC 43 grade cement shall be mixed in dry stage uniformly on GI mortar mixing tray. Quantity of polymer shall be taken in specified proportion of cement as per manufacturer's specifications in plastic bucket/mini drum. 85% of required quantity of water shall be taken in a bucket/mini drum (not more than 30% capacity of the bucket), then dry PMM shall be blended slowly under continuous stirring with low speed (500 – 800 rpm) electric stirrer for minimum 2 minutes and mortar shall be allowed to remain undisturbed for three minutes to dissolve polymer in the mortar. Balance quantity of water shall be added in the similar manner to form homogenous cohesive mortar of dough like consistency. Right consistency of mortar can be checked by making medium size ball of green mortar with hand. The ball should retain its shape when held on palm and at the same time it deforms easily without being cracked when it is pressed with palm.

14.2 Application of polymer modified repair mortar

The quantity of mortar shall be prepared at site it can be used up within 30 minutes after mixing dry mortar with water. Small balls of green mortar shall be pressed with palm applying small force against the concrete substrate primed with bond coat (wet on wet) for a thickness not more than 12mm. Next layer of mortar shall be applied over the first layer minimum after 6 hours to build up thicker section. The surface of repaired area shall be roughly finished with trowel upto the level of original RCC surface of the structural member. In no circumstances PMM shall be applied by trowel by increasing water in the mix.

14.3 Pre measurement of thickness shall be taken just after the surface preparation is completed. Area under repair shall be measured correct to a centimeter.

14.4 Curing: -

Curing shall be started after 24 hours of application of PMM. The repaired RCC member preferably wrapped with damp hessian cloth wherever feasible. Otherwise, repaired member shall be kept damped by spraying water over it with spraying machine without causing any dripping to prevent leaching of polymer content from mortar. The repaired surface shall be moist cured for 3 days followed by air curing at ambient temperature; steam curing shall not be permitted.

14.5 Testing: One mandatory test of the polymer modified mortar for every 250 sqm of plaster or part there of shall be conducted. The test shall be conducted on cube of size 70 mm, made from cement and graded quartz sand in ratio 1:3 admixed with approved polymer in specified proportion as per manufacturer specification. The test result should conform to the following strength parameter.

- i) Minimum compressive strength after 28 days: 20 N/mm^2
- ii) Minimum flexural strength after 28 days: 2 N/mm^2

15. Particular specifications for premixed single component polymer modified repair mortar: (PMRM)

Prior to applying premixed single component polymer modified repair mortar (PMRM) to RCC substrate, other repair items i.e. rust removal from reinforcement, anti corrosive treatment, providing additional reinforcement shall be completed in advance. Only bond coat shall be applied five minutes before applying PMRM.

15.1 Preparation of polymer modified repair mortar

PMRM shall be prepared in a plastic bucket/mini drum. 85% of required quantity of water shall be taken in a bucket/mini drum (not more than 30% capacity of the bucket), then dry PMRM shall be blended slowly under continuous stirring with low speed (500 – 800 rpm) electric stirrer for minimum 2 minutes and mortar shall be allowed to remain undisturbed for three minutes to dissolve polymer in the mortar. Balance quantity of water shall be added in the similar manner to form homogenous cohesive mortar of dough like consistency. Right consistency of mortar can be checked by making medium size ball of green mortar with hand. The ball should retain its shape when held on palm

and at the same time it deforms easily without being cracked when it is pressed with palm.

15.2 Application of polymer modified repair mortar

The quantity of mortar shall be prepared at site it can be used up within 30 minutes after mixing dry mortar with water. Small balls of green mortar shall be pressed with palm applying small force against the concrete substrate primed with bond coat (wet on wet) for a thickness not more than 12mm. Next layer of mortar shall be applied over the first layer minimum after 6 hours to build up thicker section. The surface of repaired area shall be roughly finished with trowel upto the level of original RCC surface of the structure member. In no circumstances PMRM shall be applied by trowel by increasing water in the mix.

15.3 Curing

Curing shall be started after 24 hours of application of PMRM. The repaired RCC member preferably wrapped with damp hessian cloth wherever feasible. Otherwise, repaired member shall be kept damped by spraying water over it with spraying machine without causing any dripping to prevent leaching of polymer content from mortar. The repaired surface shall be moist cured for 3 days followed by air curing at ambient temperature; steam curing shall not be permitted.

15.4 Testing

One mandatory test of the polymer modified mortar for every 250 sq. m of plaster of part thereof shall be conducted. The test shall be conducted on cube of size 70 mm, made from polymer modified repair mortar. The test result should conform to the following strength parameter.

- i) Minimum compressive strength after 28 days at w/p ratio of 0.16 is 40 N/mm²
- ii) Minimum flexural strength after 28 days at at w/p ratio of 0.16 is 4 N/mm²

16. PARTICULAR SPECIFICATION FOR PREMIXED READYMADE CEMENT MORTAR

The brands as specified in the preferred material / makes list are only to be used in place of traditional cement-sand mortar for readymade plastering.

1) Surface Preparation

The surface needs to be cleaned and made free from grease, dust and loose particles to ensure proper binding. The surface needs to be pre-wetted with clean water before plastering.

2) Process of mixing

- i) Required quantity of dry mix shall be taken in a mortar mixing tray.
- ii) Measured quantity of potable water shall be added to dry mix as per manufacturer's specification. (6-7 litre of water is required per 40kg bag of and 7-8 litres of water is required per 40kg bag). Correct ratio of water and dry mix is essential for better result.
- iii) The mortar shall be mixed well for 5 to 10 minutes to achieve homogenous and cohesive mix. (Use of mechanical mixer / electrical stirrer is recommended for better results.)

- iv) The prepared mix shall remain undisturbed for 5 minutes to dissolve polymer additive in mortar and shall be mixed once again without adding any water just before use.

3) Method of Application

- i) Pre wetting of surface is required before applying plaster.
- ii) The mixture should be applied within one hour of preparation of mix. This will ensure that the thin layer can be applied without cracking problems and proper cement hydration.
- iii) If the concrete surface is smooth and dense, it is recommended to apply a bond coat of acrylic polymer of any approved make.
- iv) Readymade mortar shall be applied manually using trowel and care should be taken that it does not expose to direct sunlight, wind and rain during its application.

4) Curing

Curing shall be started after 24 hours of plastering in normal weather condition. After the plaster is completely dried, curing shall be done 2 to 3 times for 2 to 3 days. In abnormally dry weather conditions, curing for 5-7 days is required.

17. JACKETING BY CEMENT CONCRETE

- 17.1 All care for casting, curing etc. shall be taken as per CPWD specifications (Ingredients of concrete have to be tested before use. Requisite number of test specimens shall be casted and tested).
- 17.2 Concrete for jacketing shall be prepared strictly in drum mixture machine (electric /diesel operated) 80% of gauging water for particular batch shall be poured in the mixer drum. Measured quantity of super plasticizer shall be mixed with remaining 10% part of gauging water and then it shall be added to the pre-wetted concrete mixed. ~~Then dry aggregate and cement in specified proportion in sequence shall be added in the mixer drum as per CPWD specifications.~~ Balance water should be added in such a manner to produce homogeneous high slum flowing yet very cohesive concrete without bleeding and segregation. Before pouring concrete in the shuttering mould other repair items i.e. rust removal from reinforcement, anti-corrosive treatment, providing additional reinforcement and shear key etc. shall be completed in advance. Only bond coat shall be applied five minutes before pouring concrete. Concrete shall be poured in the shuttering mould of maximum 0.6-meter height when bond coat reaches tacky condition. There shall be no gap between shuttering and existing concrete surface. Thermocol sheet may be used to plug small irregular gaps.
- 17.3 While doing jacketing with cement concrete it should be ensured that dropping height of cement concrete should not be more than 60 cm and shuttering height not more than 0.6-meter height at any section.
- 17.4 **Testing:** One mandatory test for every 2.5 cum of concrete or part thereof shall be conducted. The test result should conform to the following strength parameter.
 - i) Minimum compressive strength: 42 N/mm² in 28 days
 - ii) Minimum flexural strength: 4.42 N/mm² in 28 days

18. PARTICULAR SPECIFICATION FOR MICRO CONCRETE

18.1 Preparation of mix at site:

85% to 90% of required quantity of potable water shall be taken in a clean plastic bucket/ mini drum or in a Pan of a Pan mixer. Proportional quantity of micro concrete (as per manufacturer specification) in dry state shall be blended slowly under continuous stirring electric stirrer or in rotating pan of pan mixer for 2 minutes. Then balance quantity of water shall be added to the mix and shall be stirred for another 2-3 minutes to form a homogeneous, free flowing lump free mix. 10 mm down coarse aggregate in the range of 25% - 40% by weight can be mixed where thickness of repair is more than 75 mm depending on site condition. Plastic bucket / Mini drum shall be used where volume of repair is less than 1 cum, otherwise pan mixer shall be used for preparation of micro concrete at site.

18.2 Application of Micro Concrete:

Primary repair items i.e. chipping, rust removal for reinforcement and anticorrosive treatment to reinforcement shall be operated well before jacketing of RCC members. Only bond coat shall be applied five minutes before pouring concrete. Micro Concrete shall be poured in the shuttering mould when bond coat reaches tacky condition. There shall be no gap between shuttering and existing concrete surface. Thermocol sheet may be used to plug small irregular gaps. Gaps in the shuttering shall be effectively sealed with masking tape to prevent leakage of fluid concrete through joint of shuttering or gaps between shuttering of RCC members at contact point. Repair surface shall be hacked immediately after removal of shuttering if it shall be finished with plaster later stage.

18.3 Curing:

Curing should be started after the shuttering. The repaired RCC member preferably wrapped with damp hessian cloth wherever feasible. Otherwise, repaired member shall be kept damped by spraying water over it with spraying machine without causing any dripping prevent leaching of polymer content from mortar. The repaired surface shall be moist cured for 3 days followed by air curing at ambient temperature; steam curing shall not be permitted.

18.4 Testing

One mandatory test of Micro concrete for every 2.5 cum of concrete or part thereof shall be conducted. The test shall be conducted on cube of size 75 mm, made from micro concrete. The test result should conform to the following strength parameter.

- i) Minimum compressive strength: 42 N/mm² in 28 days
- ii) Minimum flexural strength: 4.42 N/mm² in 28 days

**SPECIAL CONDITION FOR WATERPROOFING WORK
GUARANTEE FOR WATER PROOFING TREATMENT:**

All water-proofing work shall be carried out through approved specialist agency as per method of working approved by the Engineer-in-charge. However, the Contractors shall be solely responsible for waterproofing treatment until the expiry of the above guarantee period. 05 years guarantee in prescribed proforma attached shall be given by the contractor for the water proofing treatment. Towards that 10% (ten percent) of the cost of these items of water proofing under this sub head shall be retained as guarantee to watch the performance of the work executed. If any defect is noticed during the guarantee period, it should be rectified by the contractor within seven days of issuing of notice by the Engineer-in-Charge and, if not attended to, the same shall be got done through other agency at the risk and cost of the contractor and recovery shall be affected from the amount retained towards guarantee. In any case, the contractor and the specialist agency, during the guarantee period, shall inspect and examine the treatment once in every year and make good any defect observed and confirm the same in writing. The security deposit can be released in full, if bank guarantee of equivalent amount, valid for the duration of guarantee, period, is produced and deposited with the Department.

MAINTENANCE OF RECORDS BY THE CONTRACTOR**1. Maintenance of Material at Site (MAS) Register–**

- (i) All the MAS Registers including Cement and Steel Registers shall be maintained by Contractor which shall be issued to the contractor by Engineer-in-charge.
 - (ii) Each of the entry of receipt of material at site shall be 100% test checked by JE or by AE if there is no JE. Each MAS Register shall be checked by JE at least twice a week and at least once a week by AE. If there is no JE then MAS registers will be checked by A E at least twice a week.
2. Copy of all test registers and Material at Site Register with each alternate Running Account Bill and Final Bill shall be submitted by the contractor.
3. **MAS register of the key materials including Cement, Steel Bitumen, Paint, Primer, Distemper, Varnishes, Tile Adhesive, Admixture, Anti termite chemical, Water proofing compound material and other items as required by Engineer-in-Charge, and shall be maintained as per proforma in Appendix-XX of GCC. All the entries in the MAS registers are to be made by the designated staff of the contractor and same is reviewed weekly by the authorized representative and fortnightly by the Engineer-in-Charge. However, contractor is responsible for maintenance and safe custody of MAS registers.**
4. **The self-attested copies of tax paid bill of all the materials entered in the MAS register shall be submitted by the contractor at the time of review by representative of Engineer-in-Charge. In case of any doubt, genuineness of the tax paid bills; it can be verified by the representative of the Engineer-in Charge or the Engineer-in-Charge, however, onus of genuineness of tax paid bills rest with the contractor.**

**GUARANTEE TO BE EXECUTED BY CONTRACTORS FOR TEXTURED SURFACE/
PREMIUM ACRYLIC SMOOTH EXTERIOR PAINT / ACRYLIC SMOOTH
EXTERIOR PAINT/ WATER PROOFING EXTERIOR PAINT AFTER
COMPLETION IN RESPECT OF FINISHING ITEMS.**

The Agreement made this _____ day of _____ Two thousand ----- and between _____ son of _____ (hereinafter called the Guarantor of the one part) and the PRESIDENT OF INDIA (herein after called the 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 defects free surface.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said structures will remain defect free for **FIVE YEARS** from the date of completion of work.

NOW THE GUARANTOR hereby guarantees that * **TEXTURED SURFACE/ PREMIUM ACRYLIC SMOOTH EXTERIOR PAINT / ACRYLIC SMOOTH EXTERIOR PAINT/ WATER PROOFING EXTERIOR PAINT** done by him will render the structures completely finish and the minimum life of such * **TEXTURED SURFACE/ PREMIUM ACRYLIC SMOOTH EXTERIOR PAINT / ACRYLIC SMOOTH EXTERIOR PAINT/ WATER PROOFING EXTERIOR PAINT** shall be **FIVE YEARS** to be reckoned from the date after the maintenance period prescribed in the contract.

Providing that the Guarantor will not be responsible for damage caused by earthquake or structural defects or misuse of surface and for such purpose.

The decision of the Engineer-in-charge with regard to kind of defects 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 defects 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 the Guarantor fails to remove its defects or commits breach there under, 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 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 WHERE OF these presents have been executed by the Obligator _____ and by -----and for and on behalf of the PRESIDENT OF INDIA on the day, month and year first above written.

Signed, sealed and delivered by Obligor in the presence of –

1. _____
2. _____

Signed for and on behalf of the President of India

In the presence of –

1. _____
2. _____

* STRIKE OUT WHICH EVER IS NOT APPLICABLE

**GUARANTEE TO BE EXECUTED BY CONTRACTOR FOR REMOVAL OF
DEFECTS AFTER COMPLETION OF WORK IN RESPECT OF
WATERPROOFING WORKS.**

This agreement made this..... day of two thousand and between,
(Name of the contractor, hereinafter call Guarantor of the one part) and the PRESIDENT OF
INDIA (hereinafter called the 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 the Guarantor agreed to give a guarantee to the effect that the said structures will
remain water/leak proof for **Five years** from the date of completion of the total project.

Now the Guarantor hereby guarantees that waterproofing 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 completion of work.

Provided that the Guarantor will not be responsible for leakage caused by earth quakes or
structural defects or misuse of roof or alterations and for such purpose

- a) Misuse of roof shall mean by operation, which will damage roofing 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 roof or
construction adjoining to existing roof, where by roofing treatment is removed in parts.
- c) The decision of the Engineer-in-Charge with regard to cause of leakage/seepage shall be
final.

During this period of guarantee, the Guarantor shall make good all defects and in case of any
defects being found, render the building water proof at his own cost, to the satisfaction of the
Engineer-in-Charge 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 Department through 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 the Guarantor fails to execute the necessary rectification or commits breach there under
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 reasons of any default on the part of
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 where of these presents has been executed by the Obligator.....and by and for and on behalf of the PRESIDENT OF INDIA on the day month and year first above written.

Signed, sealed and delivered by (OBLIGOR) in the presence of:

1.

2.

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

**TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF DEFECTS AFTER
COMPLETION IN RESPECT OF WATER SUPPLY AND SANITARY
INSTALLATIONS**

The agreement made this.....day ofTwo Thousand and.....between
son of

(here in after called the GUARANTOR of the one part) and the PRESIDENT OF INDIA
(hereinafter called the 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 work in the said
contracture cited structurally stable workmanship, finishing and use of sound materials.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said
work will remain structurally stable and guaranteed against faulty workmanship, finishing,
manufacturing defects of materials and leakages, etc.

NOW THE GUARANTOR hereby guarantee that work executed by him will remain
structurally stable after expiry of maintenance period prescribed in the contract for the
minimum life of 02 (Two) year to be reckoned from the date after the expiry of maintenance
period prescribed in the contract.

The decision of the Engineer-in-charge with regard to nature and cause of defect shall be final.
During this period of guarantee, the guarantor shall make good all defects to the satisfaction of
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 the guarantor fails to make good all the defects commits breach there under, then the
guarantor will indemnify the principal and his success or 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 both the parties.

IN WITNESS WHEREOF these presents, have been executed by the obligator
.....and

.....by
..... For and on behalf of the PRESIDENT OF INDIA on the day,
month and year first above written.

SIGNED, sealed and delivered by OBLIGATOR in the presence of:

1.
2.

SIGNED FOR AND ON BEHALF OF THE PRESIDENT OF INDIA BY
..... in the presence of:

1.
-

**TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF DEFECTS AFTER
COMPLETION IN RESPECT OF STRUCTURAL REPAIR AND
REHABILITATION/ RETROFITTING WORK**

The agreement made this.....day ofTwo Thousand and.....between
____son of

(here in after called the GUARANTOR of the one part) and the PRESIDENT OF INDIA
(hereinafter called the 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 work in the said
contracture cited structurally stable workmanship, finishing and use of sound materials.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said
work will remain structurally stable and guaranteed against faulty workmanship, finishing,
manufacturing defects of materials and leakages, etc.

NOW THE GUARANTOR hereby guarantee that work executed by him will remain
structurally stable after expiry of maintenance period prescribed in the contract for the
minimum life of 05 (Five) year to be reckoned from the date after the expiry of maintenance
period prescribed in the contract.

The decision of the Engineer-in-charge with regard to nature and cause of defect shall be final.
During this period of guarantee, the guarantor shall make good all defects to the satisfaction of
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 the guarantor fails to make good all the defects commits breach there under, then the
guarantor will indemnify the principal and his success or 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 both the parties.

IN WITNESS WHEREOF these presents, have been executed by the obligator
.....and

.....by
..... For and on behalf of the PRESIDENT OF INDIA on the day,
month and year first above written.

SIGNED, sealed and delivered by OBLIGATOR in the presence of:

1.
2.

SIGNED FOR AND ON BEHALF OF THE PRESIDENT OF INDIA BY

in the presence of:

1.
-

PREFERRED MAKE OF MATERIALS
(FOR CIVIL WORKS)

Preferred Makes for Civil Works:

Brand names of materials to be used as per the scope of work are listed here and are indicative only. The agency should use 'Make-in-India' products only as per the Govt. of India "Make in India" policy updated up to the last date of submission of bids. The agency should also consider the availability of spare parts/components for maintenance purposes while proposing any brand/manufacturer. The alternate brand can be used only after the approval of NIT approving authority. The agency shall submit at least three brands from the list given below along with the rates (the difference in rates shall not be more than 10%) and specifications for the approval of Engineer-in-Charge before placing order. Any other equivalent brand shall be allowed only if the already provided brands in the preferred Make List are not available in the market. Preference shall be given to 'Make-in-India' products. In case of non-availability of 'Make in India' brands, then only the proposal for use of international brands is allowed with the prior approval of NIT approving authority complying with all Government of India norms. The list of preferred Makes for Civil work is given below:

Sr. No.	Material	Preferred Makes/Brands/Manufacturer
1	Ordinary Portland Cement/ Portland Pozzolana Cement	ACC/ULTRATECH/AMBUJA/ JKCEMENT / SHREE CEMENT
2	Ready Mix Concrete	ACC / ULTRATECH / PRISM-JOHNSON/ RMC GODREJ / JSW /NUVOCO (LAFARGE)
3	White Cement	BIRLA WHITE/ JKWHITE
4	Reinforcement Steel (TMT Bars) Low Alloy/ Corrosion Resistant Bars of Fe 550D Grade or more	SAIL/TATASTEEL/RINL/JSPL / JSW
5	Mechanical Bar Couplers for Reinforcement	DEXTRA / G-TECH / SNTP /SANFIELD
6	Re-barring Chemical/ Mechanical Fastener, Anchor Fastener	HILTI- RE100 / / FISHER – FIS EM PLUS / MAPEI – MAPEFIX VE SF / WURTH – PE 1000
7	Structural Steel	TATA / RINL / SAIL / JSW / JSPL
8	Admixture for Concrete: - Plasticizer/ Super Plasticizers / SRA/Bipolar Corrosion Inhibitor Admixtures	SIKA / BASF/ CICO TECHNOLOGIES / PIDILITE / FOSROC /MAPEI /ASIAN SMART CARE / PENETRON / MCON RASAYAN India Ltd. / PAR / STP LIMITED / FERROUS CRETE / MYK ARMENT
9	AAC Block	HLL BIRLA AEROCON / TATA TISCOBUILD / J K LAKSHMI / SIPOREX / FERROUS CRETE / Ultra Tech

10	AAC Block Adhesive	HLL BIRLA AEROCON / ULTRATECH/ARDEXENDURA/MYK LATICRETE/ MAPEI / FERROUS CRETE
11	Injection Grouting System: - Cementitious/ Resin Based /PU	PIDILITE / CICO TECHNOLOGIES / SIKA / BASF/ FOSROC / MC BAUCHEMIE (I) PVT. LTD. / ASIAN SMART CARE / MAPEI / MYK ARMENTS
12	Curing Compound	SIKA / PIDILITE / CICO TECHNOLOGIES / FOSROC / BASF / MAPEI / ASIAN SMART CARE
13	Expansion Joint- modular	HERCULES/Z-Tech/SANFIELDINDIA/MIGUA / BASF/ SIKA/FERROUS CRETE / MAPEI
14	Anti Termite Treatment	BAYER/HINDUSTANINSECTICIDES /DE- NOCIL
15	Waterproofing Self-adhesive (HDPE / PVC / EPDM / APP) Membrane	PIDILITE / CICO TECHNOLOGIES / SIKA / BASF/ FOSROC /MC BAUCHEMIE (I) PVT. LTD./ MAPEI / ASIAN SMART CARE / BIRLA OPUS / HOME SHIELD
16	Single Component or Two component Polyurethane vitr (Pure/Hybrid) – Spray /Brush, Two Component Polyurea (Pure/Hybrid)-Spray / Brush Applied	PIDILITE / CICO TECHNOLOGIES / FOSROC / SIKA/ MC BAUCHEMIE (I) PVT. LTD./ ASIAN SMART CARE / MAPEI
17	Integral Crystalline Waterproofing Compound	PENETRON (I) Pvt. Ltd / HYGIE (I) PVT. LTD. / XYPEX CHEMICAL CORPORATION / SPANOTECH (I) PVT. LTD. / VEXCOLT INTERNATIONAL LTD. / MAPEI
18	Crystalline Waterproofing Coating	KRYTON / CICO TECHNOLOGIES / PIDILITE/ PENETRON /FOSROC/ MAPEI/ASIAN SMART CARE / FERROUS CRETE / MYK ARMENTS / PAR
19	Acrylic / Elastomeric coatings & Cementitious coatings	BIRLA OPUS
20	Swellable Water Bar, Re Injectable Hose System	KRYTON / CICO TECHNOLOGIES / PIDILITE/ PENETRON /FOSROC/ MAPEI /ASIAN SMART CARE
21	Crystalline Mortar	PENETRON
22	Integral Waterproofing Admixture for Plaster / Screed / Mortar	PIDILITE / CICO TECHNOLOGIES / FOSROC / SIKA/MC BAUCHEMIE (I) PVT. LTD./ MAPEI/ ASIAN SMART CARE / MCON RASAYAN India Ltd./FERROUS CRETE /HOME SHIELD
23	Expanded polystyrene sheet (EPS) and Extruded Polystyrene Insulation Board	PIDILITE / CICO TECHNOLOGIES / FOSROC / SIKA / MC BAUCHEMIE (I) PVT. LTD./ MAPEI/ ASIAN SMART CARE

	(XPS) / Dimple board / Drainboard	
24	Epoxy Coating: Food Grade Epoxy Coating for water Tanks / Non-Toxic Epoxy Coating for STP Tanks /Bituminous Epoxy Coating	PIDILITE / CICO TECHNOLOGIES / FOSROC / SIKA/ MC BAUCHEMIE (I) PVT. LTD./MAPEI/ ASIAN SMART CARE / MYK ARMENTS / PAR
25	Epoxy Mortar/Bonding Agent/Grout/ Floor Hardener	PIDILITE / CICO TECHNOLOGIES / FOSROC / SIKA/MC BAUCHEMIE (I) PVT. LTD./BOSTIK / MAPEI / ULTRA TECH / STP LIMITED
26	Micro Concrete	ULTRATECH / FOSROC / DR. FIXIT/ SIKA / MYK ARMENT
27	Laminates	GREEMPLAM/MERINOLAM/CENTURY / FORMICA / ROYAL TOUCHE
28	Veneer	GREEMPLAM/MERINOLAM/CENTURY / DURO
29	Moisture Resistant HDF/MDF Board	ACTIONTESA/ GREENPLY/ MERINOLAM
30	SS Mesh 316 GRADE	GKD METAL FABRICS / RAINOX / WMW
31	Flush door shutters	GREENPLY / DURO / MERINO / CENTURY.
32	Glass / Rock wool Insulation	UP TWIGA / VETROTEX / ROCK WOOL I. LTD / L LLOYDS
33	Polycarbonate Sheet	GE LEXAN / DANPALON / GALLINA / DPI DAYLIGHT (FLUX)
34	Decking Steel sheet	TATASTEEL /LLOYDS/JSW
35	Fire Sealant	HILTI/3MINDIA/FISCHER / SIKA
36	Poly-Sulphide Sealant / PU Sealants /Silicon Sealants / Acrylic Sealant / Solvent/ Based Silicon Repellant coatings.	PIDILITE / CICO TECHNOLOGIES / FOSROC / SIKA/MC BAUCHEMIE (I) PVT. LTD./ MAPEI/ MCON RASAYAN India Ltd. / ASIAN SMART CARE / FERROUS CRETE
37	Wooden/Metal/Glazed-fire rated Door Shutters & Acoustic	NAVAIR/PROMAT/PACIFIC/SUKRITI/SHAKTI- HORMAN/BHAWANI FIRE/ GODREJ / Shirke Polynorm
38	UPVC Doors & Windows	NCLVEKA/ DUROPLAST /LG-HAUSYS/ MARG/FENESTA/ RAJSHRI PLASTIWOOD / KAKA / VENSTER / OKOTECH
39	WPC Door / Frame / CNC Jali	KAKA / RAJSHRI / ECOSTA
40	PVC Doors & Frames	KAKA/ RAJSHRI PLASTIWOOD
41	Fire rated glass (2hours fire rating)	GLAVERBEL/SAINTGOBAIN/PYROGUARD/ SCHOTT/ MODIGUARD/ ASAHI / NAVAIR

42	Cement Fiber Board	LAFARGE/INDIAGYPSUM/CENTURY/NCL (BISON) / EVEREST
43	All Types of Plywood (Waterproof Plywood/ Fire Retardant Ply / Block Boards)	MERINO / GREENPLY/ ROYAL TOUCHE /
44	All types of primer, Water Proofing Cement Paint, Acrylic Distemper	ASIAN PAINTS /DULUX/NEROLAC/ BERGER / BIRLA OPUS / JSW PAINTS
45	All types of Synthetic Enamel Paint,	ASIANPAINTS /DULUX/NEROLAC/ BERGER / BIRLA OPUS / JSW PAINTS
46	Acrylic Emulsion Paint, (Interior / Exterior)	ASIAN PAINTS /DULUX/NEROLAC/ BERGER / BIRLA OPUS / JSW PAINTS
47	Premium Acrylic Emulsion Paint, (Interior / Exterior)	ASIAN PAINTS /DULUX/NEROLAC/ BERGER / BIRLA OPUS / JSW PAINTS
48	Melamine Polish	ASIAN PAINTS /DULUX/NEROLAC/ BERGER / BIRLA OPUS / JSW PAINTS
49	Polyester Powder Coating Shades	NEROLAC/BERGER/ DULUX
50	Cement based Wall Putty	BIRLA WHITE/ JK WHITE/ BERGER/ ASIAN PAINTS/ DULUX / JSW PAINTS / FERROUS CRETE
51	Synthetic Resin Adhesives	ANCHOR/DUNLOP/PIDILITE-FEVICOL
52	Textured Exterior Finish	ASIAN PAINTS / BERGER / DULUX/ ULTRATECH/SPECTRUM / MCON RASAYAN India Ltd., / BIRLA OPUS
53	Epoxy Paint	DULUX /NEROLAC/ASIAN PAINTS / FOSROC / BERGER
54	Fire Retardant Paint	ASIANPAINT/BERGERPAINTS/JOTUN/ DULUX / NIPPON
55	Gypsum Plaster	ULTRATECH/ INDIAGYPSUM / GYPROC / USG KNAUF / BIRLA WHITE / FERROUS CRETE
56	Cement based Ready Mix Plaster	ULTRATECH/ SAINT GOBAIN / JSW/AMBUJA/ BIRLA WHITE / FERROUS CRETE
57	Pre-Cast GRC Jali	BIRLAGRC/ UNISTONE/ KERAKROME GRC
58	Poly sulphide Sealant	FOSROC / SIKA / TUFFSEAL / PIDILITE / WACKER / DOW CORNING / MYK LATICRETE /MAPEI
59	Silicone/Weather Sealant	WACKER/DOWCORNING/GE/ BASF / MAPEI
60	Stainless Steel Grade 316	SALEMSTAINLESS /TATASTEEL / JINDAL

61	Welding Electrodes	ADVANI-OERLIKON/MODI
62	Dash/ Anchoring Fasteners	HILTI/ FISHER/ BOSCH/ WURTHINDIA
63	Anodised Aluminium Hardware (Heavy Duty)	HARDIMA/ALUALPHA/PULSEOFLGF SYSMAC / HINDALCO / EVERITE / SHALIMAR
64	Aluminium Section for Window, Glazing	JINDAL/HINDALCO/NALCO/INDALCO
65	Modular (knock down) Stainless-Steel Railing, Accessories etc. (Grade SS 316 or 304 as applicable)	DORMA / JINDAL / KICH
66	Gypsum Board / Glass Reinforced Gypsum Tile for False Ceiling	SAINT GOBAIN / KNAUF / USG BORAL
67	Metallic False Ceiling	KNAUF / HUNTERDOUGLAS / SAINT GOBAIN / DURLUM / HI-STEEL
68	Metal False Ceiling (SS / Aluminum GI)	MCRA
69	Acoustical Tile False ceiling	KNAUF/ SAINTGOBAIN/ AEROLITE / DURLUM
70	Open Cell Ceiling System	HUNTER DOUGLAS / DURLUM India Pvt Ltd / KNAUF
71	Moisture Resistant Calcium Silicate ceiling tiles/ Board	GYPROC / AEROLITE / USG BORAL / HILUX / KNAUF / EVEREST
72	Cement Fiber board	AMF/USGBORAL/LAFARGE/INDIAGYPSUM / CENTURY / NCL (BISON)
73	Glass Mosaic Tiles	BISAZZA/MRIDUL/OPIO/PALLADIO/ITALIA GLASS / BIRLA
74	Rectified Ceramic Tiles (Antiskid/ Matt/Glazed)	KAJARIA/ SOMANY/ RAK / AGL / H & R JOHNSON / VITERO / CERA
75	Vitrified Tiles (Full body / Double Charged / Glazed)	KAJARIA/SOMANY/RAK / AGL / H & R JOHNSON / VITERO / CERA
76	PVC Flooring	ARMSTRONG/TARKETT/LGHAUSYS
77	Engineered stone-Marble/ Quartz	ASIAN/JOHNSON/KALINGA/ QUTONE / EURO
78	Adhesive / Tile Grout (for Tile / Stone)	BALENDURA/MYKLATICRETE/ PIDILITE / MAPEI / Ultra Tech / MCON RASAYAN India Ltd. / STP LIMITED BIRLA WHITE
79	Epoxy Flooring / PU Flooring	FOSROC/SIKA/CICO/MYKLATICRETE/ MAPEI/ ASIAN SMART CARE / MYK ARMENT / STP LIMITED / PAR

80	Heat Resistant Tiles(22mm)	THERMATEK / NATIONAL/THERMAX / DALAL TILE
81	Over deck foam Insulation	ASIANS MART CARE/LLYODS/PIDILITE/ SOPREMA/MAPEI
82	C&D Waste Precast Elements (Karb stones, Paver blocks, CC Blocks etc.)	6M CONCRETE / IL&FS& ANY OTHER GOVT. APPROVED AGENCY
83	Glazing Structural/ Suspended /Skylight/ clear/ float/ frosted/ mirror	SAINT GOBAIN / PILKINGTON / AGC GLAVERBEL / AIS/ GOLD PLUS
84	Clear/Float/Frosted / Tinted Glass & Looking Mirror	SAINT GOBAIN / PILKINGTON / AGC GLAVERBEL / AIS / GOLD PLUS
85	Toughened Glass / Hermetically sealed glass / High Performance Glass	SAINT GOBAIN / PILKINGTON / AGC GLAVERBEL / AIS / GOLD PLUS
86	Nuts/Bolts & Screws (SS OR GI)	HILTI / WURTHINDIA/ FISCHER
87	Clamp system for dry Stone Cladding	HILTI / FISCHER/BOSCH/ WURTH INDIA
88	All type of hardware and fittings for all type of glazing / doors/ windows etc. including mortise latch & lock, tower bolt, ball bearing butt hinges, friction stay hinges, sliding door bolts, lever handle, magic eye, door closer etc.	HAFELE/ GODREJ/ HETTICH/ GEZE / KICH
89	Modular Toilet Cubicles	MERINO/ GREENLAM / CUBICLES INDIA
90	Hardware for Fire Check Door/ panic bar/ panic trim/door closer/ hinges/ mortise lock / Dead Lock etc.	DORMA / HAFELE / PROMAT / BECKER / GEZE / INGERSOLL RAND
91	EPDM Gasket	AMEE RUBER /OSAKA / BOHRA RUBBER
92	GI Pipes	JINDAL(HISAR)/TATASTEEL/SURYA PRAKASH / APL APOLLO TUBES
93	GI Fittings	UNIK/ZOLOTO/ SURYAPRAKASH
94	SS Pipes & fittings (316 Grade) Water Supply	JINDAL LIFESTYLE / VIEGA / J PRESS / ALFA PRESS

95	DWCHDPE Pipes	RELIANCE/ PRINCE / JAIN PIPES / SUPREME
96	DI Pipes	ELECTROSTEEL (VEDANTA) / JINDAL / TATA DUCTURA
97	DI Fittings	ELECTROSTEEL (VEDANTA) / JINDAL / TATA DUCTURA / KESORAM
98	CI Double flanged sluice valve	KIRLOSKAR/SONDHI/KEJRIWAL
99	Float Valve	LEADER/ZOOTO/ SANT
100	Hubless Centrifugally Cast (Spun) Iron Pipes & Fittings	NECO/ RIF /SKF /KAPILANSH
101	Centrifugally Cast (Spun)Iron (Class LA) Pipes	NECO/ ELECTRO STEEL/ TATA
102	CI Manhole covers, Frames& GI Gratings	NECO /RIF
103	SFRC Manhole Covers& Gratings	KK / OCR / PARGATI / T-CON/NECO
104	Stone ware Pipes and Gully Traps	SONYA / SUPPERTECH / CHERRY
105	RCC Manhole covers & Frames	KKMANHOLE/GRATING CO.(P)LTD
106	Gun Metal Valves, Globes	ZOOTO/ SANT/ LEADER
107	CP Fittings & Accessories	JAQUAR/KOHLER/ROCA / GROHE / E.S.S E.S.S / CERA / LUXE / SENAT
108	CP Fittings & Accessories (Automation)	JAQUAR/KOHLER/ROCA / GROHE / EURONICS
109	Sanitary Vitreous Chinaware	JAQUAR/KOHLER/ROCA / GROHE / ASIAN PAINTS / CERA / LUXE / SENAT
110	Water Meter	PRIMA/ ZOOTO/LEADER/ CAPSTAN
111	Brass Stop & Bib Cock	ZOOTO/ ANT/L&K/LEADER/ASTRAL
112	PVC/ CPVC Pipe &Fittings	ASHIRVAD / SUPREME/FINOLEX
113	Non-Return Valve (Check valve) and other kind of Valves	ZOOTO/SANT/LEADER
114	Brass Ferrules	ZOOTO/SANT/LEADER
115	Insulation for hot waterpipes	KAIFLEX/ARMAFLEX/CAREFLEX/LLOYD
116	Pipe protection for external Water supply pipes	PYPKOTE/ARMAFLEX/ MAKPOLYKOTE
117	Stainless Steel Sink	PRAYAG / NIRALI/CERA/ KINGSTON / JAYNA

118	RCC Pipes	LAKSHMI/SOOD&SOOD/JAIN&CO./PRAGATI CONCRETE
119	Dash/Stud/Anchor Fasteners	HILTI/CANON / BOSCH / FISCHER
120	Irrigation Equipment	JAINIRRIGATION/KISAN/FINOLEX/ PLASSON
121	SMC Panel Water Tank	SINTEX/POLYCON / PLASTO / SUPREME
122	Modular Rainwater harvesting	RETAS WATER HARVESTING / ADWYN IMPEX PVT. LTD / LIFE GREEN SYSTEM / BANTAIR
123	Factory made Modular kitchen cabinets, wardrobes, dressing cabinet etc.	GODREJ/ HAFFLE/ SLEEK/ ROCKWORTH/ DURIAN / EBCO / NEELKAMAL
124	Organic Waste Composter	ECOBOT /BIORECO/ EXCEL
125	Window Blinds	DECK/HUNTER DOUGLAS /VISTA /MAC/ MARVEL
126	Modular SS Grade316 Curtain Rods and Accessories	JINDAL/HAFELE/GEZE/Q-RAILING/ MARK / TRESA
127	Wooden / Laminated Flooring	ACTION TESA / KNAUF / EGO/ GREENLAM / MIKASA
128	Aluminum Composite Panel	ALUDECOR / EUROBOND / DPI DAYLIGHT / 4MANN & ARROWBOND / VIVA
129	Urinal Frosted Glass Partition- toughened	JAQUAR / GOLD PLUS GEREENLAM/ MERINO/FUNDERMAX
130	Automatic Meter System Reading (Ultrasonic)	PELTEK / AVVA / DIEH AXIOMA/ BAYLAN/ GLOBAL
131	Automatic Meter Reading System (Electromagnetic)	SENSUS / XYLEM / HONEYWELL / ITRON
132	Aluminum Form work	MIVAN, S-Form, MFS, MAIONI, ALFOAK
133	Chequered Tiles, Paver Block & Kerb Stone	SUPER TILES / VYARA / KAJARIA / NITCO / CONCRETO +
134	High Pressure Laminate	FORMICA / MERINO / GREENLAM
135	Stone polymer flooring / Carpet tiles	MILIKEN/MOHAWK/FLOTEX / EGO/ WELSPUN/ DOLPHY
136	Single / Double Glazed Modular partition system & Stile / Glazed Doors	GEZE / DORMA / JEBB / OPTIMA / HAFELE
137	PVC Mirror cabinet	NILKAMAL / PRAYAG / SHAKTI
138	Acrylic Polymer Solid Surface board	HANEX/ HUNEX/ CORIAN

139	Frosted Film	3M / GARWARE
140	S.S. Tile insert	SIMTEX / FALDU / RUHE

Note: -

- (a) Material bearing ISI mark and having BIS certifications shall only be used in the work, where articles of different designs/makes bearing ISI/BIS certifications are available.
- (b) Where material bearing ISI mark and having BIS certifications are not available, then material conforming to relevant BIS certifications shall be used with prior approval of Engineer-in-Charge. The decision of Engineer-in-Charge about the design/ make to be used in the work shall be final & binding on the agency.
- (c) If the brand or specifications of any item is not available, then the decision of the Tender accepting authority regarding quality shall be final & binding on the agency.

SCHEDULE OF QUANTITY

Name of Work : Annual repair and Maintenance of residential and non-residential building at IIPS Campus, Deonar Mumbai during 2026-27.

SL.No	Description	Qty	Unit	Rate i/c 17% C.I.	Amount
1	CEMENT CONCRETE (CAST IN SITU)				
1.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
1.1.1	1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	2.00	cum	7626.76	15254.00
1.2	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor etc., up to floor five level, excluding the cost of centering, shuttering and finishing:				
1.2.1	1:2:4 (1 Cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	1.00	cum	11577.38	11577.00
2	MASONRY WORK				
2.1	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :				
2.1.1	Cement mortar 1:6(1 cement : 6 coarse sand)	2.00	cum	10653.96	21308.00
2.2	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level.				
2.2.1	Cement mortar 1:4(1 cement :4 coarse sand)	10.00	sqm	1314.85	13149.00
3	CLADDING WORK				
3.1	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required				

	size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing of edges to give high gloss finish etc. complete at all levels.				
3.1.1	Granite stone slab of colour black, Cherry/Ruby red				
3.1.1.1	Area of slab upto 0.50 sqm	5.00	sqm	6333.80	31669.00
3.1.1.2	Area of slab over 0.50 sqm	5.00	sqm	6009.47	30047.00
3.2	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3(1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	18.00	sqm	1483.50	26703.00
4	WOOD AND P. V. C. WORK				
4.1	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately).				
4.1.1	Second class teak wood	0.30	cum	167251.15	50175.00
4.1.2	Sal wood	0.25	cum	136328.75	34082.00
4.2	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:				
4.2.1	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	11.00	sqm	2799.40	30793.00
4.2.2	25 mm thick (for cupboard) including ISI marked nickel plated bright finished M.S. piano hinges with necessary screws	12.00	sqm	2449.63	29396.00

4.3	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	11.00	sqm	540.95	5950.00
4.4	Providing and fixing ISI marked IS:1341 M.S. pressed butt hinges bright finished with necessary screws etc. complete:				
4.4.1	100x58x1.90 mm	10	each	52.65	527.00
4.4.2	75x47x1.70 mm	20	each	45.98	920.00
4.5	Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 36 kg to 80 kg and door width from 701 mm to 1000 mm), with double speed adjustment with necessary accessories and screws etc. complete.	20	each	1150.29	23006.00
4.6	Providing and fixing aluminium 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 :				
4.6.1	250x16 mm	20	each	304.90	6098.00
4.7	Providing and fixing aluminium tower bolts, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete :				
4.7.1	250x10 mm	20	each	134.73	2695.00
4.7.2	100x10 mm	20	each	75.70	1514.00
4.8	Providing and fixing aluminium 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 :				
4.8.1	125 mm	20	each	77.51	1550.00
4.8.2	100 mm	20	each	69.67	1393.00
4.9	Providing and fixing magnetic catcher of approved quality in cupboard/ ward robe shutters, including fixing with necessary screws etc. complete.				
4.9.1	Double strip (horizontal type)	10	each	46.45	465.00

4.10	Providing and fixing 19 mm thick both side balancing lamination factory pressed BWP grade marine ply as per IS : 710 of approved brand boxes, shelves, racks, almirah, cupboard and drawer etc. including necessary nails, screws etc. complete as per direction of Engineer-in - charge.	24.00	sqm	3033.99	72816.00
5	STEEL WORK				
5.1	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
5.1.1	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	100.00	kg	201.94	20194.00
5.2	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, bufing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	100.00	kg	903.71	90371.00
5.3	Providing & fixing fly proof wire gauze to windows, clerestory windows & doors with M.S. Flat 15x3 mm and nuts & bolts complete.				
5.3.1	Stainless steel (grade 304) wire gauze of 0.5 mm dia wire and 1.4 mm aperture on both sides	60.00	sqm	1326.25	79575.00
6	FLOORING				
6.1	Providing and laying rectified Glazed Ceramic floor tiles of size 300x300 mm or more (thickness to be specified by the manufacturer), of 1st quality conforming to IS : 15622, of approved make, in colours White, Ivory, Grey, Fume Red Brown, laid				

	on 20 mm thick cement mortar 1:4 (1 Cement: 4 Coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete.	24.00	sqm	1556.10	37346.00
6.2	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.				
6.2.1	Double charge vitrified tile polished finish of size				
6.2.1.1	Size of Tile 600 x 600 mm	40.00	sqm	1700.77	68031.00
6.3	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing , curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge.				
6.3.1	Polished Granite stone slab of colour Black, Cherry/Ruby Red or equivalent	5.00	sqm	5243.12	26216.00
7	ROOFING				
7.1	Providing and fixing pre-coated galvanised iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-Charge) of total coated thickness 0.50 mm (base metal of minimum 0.45 mm thickness with total coating thickness of 0.05mm) with zinc coating 120 grams per				

	sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12 metre or as desired by Engineer-in-charge. The sheet shall be fixed using self drilling /self tapping screws of size (5.5x 55 mm) with EPDM seal, complete upto any pitch in horizontal/ vertical or curved surfaces, excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.	20.00	sqm	864.22	17284.00
8	FINISHING				
8.1	Finishing walls with Acrylic Smooth exterior paint of required shade:				
8.1.1	New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 0.90 litre/10 sqm)	100.00	sqm	187.90	18790.00
8.2	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :				
8.2.1	Two or more coats on new work	50.00	sqm	182.40	9120.00
8.3	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	1000.00	sqm	182.58	182580.00
8.4	Distempering with 1st quality acrylic distemper (ready mixed) having VOC (Volatile Organic Compound) content less than 50 gram/ litre, of approved brand and manufacturer including applying additional coats wherever required to achieve even shade and colour				
8.4.1	Old work (one or more coats)	1100.00	sqm	73.36	80696.00
8.5	Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound) content less than 50 grams/ litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.				
8.5.1	One coat	2025.00	sqm	111.68	226152.00

8.5.2	Two coats	1000.00	sqm	167.08	167080.00
8.6	Removing dry or oil bound distemper, water proofing cement paint and the like by scrapping, sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete.	1000.00	sqm	29.43	29430.00
8.7	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade:				
8.7.1	One or more coats on old work	400.00	sqm	120.28	48112.00
8.8	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade				
8.8.1	Old work (one or more coats applied @ 0.83 ltr/10 sqm).	1500.00	sqm	103.60	155400.00
9	REPAIRS TO BUILDING				
9.1	Cleaning of terrace/loft water storage tank (inside surface area) upto 2000 litre capacity at all heights with coconut brushes, duster etc., removal of silt, rubbish from the tank and cleaning the tank with fresh water disinfecting with bleaching powder @ 0.5gm per litre capacity of tank including marking the date of cleaning on the side of tank body with the help of stencil and paint and disposing of malba all complete as per direction of Engineer- in-Charge. (The old date already written on tank should be removed with paint remover or black paint and if date is not written with the stencil or old date is not removed deduction will be made @ Rs. 0.10 per litre) (if during cleaning any GI fittings or ball cock is damaged that is to be repaired by contractor at his own cost and nothing extra will be paid on this account)	200000.00	litre	0.59	118000.00

9.2	Cleaning of under ground sump, Over Head R.C.C. Tank (independent staging) including disposal of slit and rubbish, all as per direction of Engineer-in-Charge. The cleaning shall consist following operations:- (i) Tank shall be emptied of water by pumping & bottom shall be cleaned of silt and other deposits. (ii) Entire surface area of the sump shall then scrubbed thoroughly with wire brush etc. and pressure washed with water. (iii) Chlorination of RCC internal surface by liquid chlorine. (iv) The treated surface shall be dried using air jetting and all loose particles shall be removal from the surface. (v) Finally the surface shall be treated with ultraviolet radiation etc. as per direction of Engineer-in-Charge.	1200.00	sqm	99.27	119124.00
9.3	Dismantling 15 to 40 mm dia G.I. pipe including stacking of dismantled pipes (within 50 metres lead) as per direction of Engineer-in-Charge. (a) Internal Work-Exposed on wall	25.00	metre	3.80	95.00
10	Dismantling and Demolishing				
10.1	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.				
10.1.1	Nominal concrete 1:4:8 or leaner mix (including equivalent design mix)	2.00	cum	1759.21	3518.00
10.2	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.				
10.2.1	In cement mortar	2.00	cum	2410.43	4821.00
10.3	Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead :				
10.3.1	Of area 3 sq. metres and below	5	each	429.62	2148.00
10.4	Dismantling steel work in built up sections in angles, tees, flats and channels including all gusset plates, bolts, nuts, cutting rivets, welding etc. including dismembering and stacking within 50 metres lead.	50.00	kg	6.61	331.00

10.5	Dismantling tile work in floors and roofs laid in cement mortar including stacking material within 50 metres lead.				
10.5.1	For thickness of tiles 10 mm to 25 mm	68.00	sqm	85.88	5840.00
10.6	Dismantling of flushing cistern of all types (C.I./PVC/Vitrious China) including stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead.	25	each	131.10	3278.00
10.7	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead.	30.00	sqm	63.94	1918.00
10.8	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	30.00	cum	308.82	9265.00
11	SANITARY INSTALLATIONS				
11.1	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 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:				
11.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests	5	each	7917.86	39589.00
11.2	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 :				
11.2.1	W.C. pan with ISI marked white solid plastic seat and lid	10	each	7623.19	76232.00

11.3	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:				
11.3.1	White Vitreous China Wash basin size 630x450 mm with a single 15 mm C.P. brass pillar tap	10	each	2604.83	26048.00
11.4	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 :				
11.4.1	Kitchen sink without drain board				
11.4.1.1	610x510 mm bowl depth 200 mm	5	each	5780.74	28904.00
11.5	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.				
11.5.1	10 litre capacity - White	25	each	1393.06	34827.00
11.6	Providing and fixing solid plastic seat with lid for pedestal type W.C. pan complete :				
11.6.1	White solid plastic seat with lid	20	each	801.27	16025.00
11.7	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.				
11.7.1	Flexible pipe				
11.7.1.1	32 mm dia	25	each	139.87	3497.00
11.7.1.2	40 mm dia	20	each	139.87	2797.00
11.8	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	10	each	1881.30	18813.00
11.9	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :				
11.9.1	100 mm inlet and 75 mm outlet				
11.9.1.1	Sand cast iron S&S as per IS - 3989	4	each	2310.93	9244.00

11.10	Providing and fixing PTMT Waste Coupling for wash basin and sink, of approved quality and colour.				
11.10.1	Waste coupling 38 mm dia of 83 mm length and 77 mm breadth, weighing not less than 60 gms	20	each	143.21	2864.00
12	WATER SUPPLY				
12.1	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply and all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work - Exposed on wall				
12.1.1	25 mm nominal dia Pipes	25.00	metre	469.81	11745.00
12.2	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings and fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. Concealed work, including cutting chases and making good the walls etc.				
12.2.1	15 mm nominal dia Pipes	20.00	metre	582.43	11649.00
12.2.2	20 mm nominal dia Pipes	30.00	metre	628.99	18870.00
12.3	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				
12.3.1	50 mm nominal bore	5	each	1201.18	6006.00
12.4	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :				
12.4.1	25 mm nominal bore	5	each	542.94	2715.00

12.5	Providing and fixing G.I. Union in existing G.I. pipe line, cutting and threading the pipe and making long screws, including excavation, refilling the earth or cutting of wall and making good the same complete wherever required :				
12.5.1	25 mm nominal bore	5	each	1111.91	5560.00
12.6	Providing and fixing PTMT grating of approved quality and colour.				
12.6.1	Circular type				
12.6.1.1	125 mm nominal dia with 25 mm waste hole	25	each	60.66	1517.00
13	ALUMINIUM WORK				
13.1	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / panelling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :				
13.1.1	For fixed portion				
13.1.1.1	Powder coated aluminium (minimum thickness of powder coating 50 micron)	50.00	kg	621.15	31058.00
13.1.2	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)				
13.1.2.1	Powder coated aluminium (minimum thickness of powder coating 50 micron)	50.00	kg	742.31	37116.00

13.2	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item):				
13.2.1	With float glass panes of 5 mm thickness (weight not less than 12.50 kg/sqm)	5.00	sqm	1761.14	8806.00
13.3	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.				
13.3.1	With stainless steel cover plate minimum 1.25 mm thickness	6	each	3303.90	19823.00
13.4	Filling the gap in between aluminium 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.				
13.4.1	Upto 5 mm depth and 5 mm width	40.00	metre	113.20	4528.00
14	WATER PROOFING				
14.1	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : (a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/ sqm. This layer will be allowed to air cure for 4 hours. (b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.	20.00	sqm	721.95	14439.00

15	NEW TECHNOLOGIES AND MATERIALS				
15.1	Chipping of unsound/weak concrete material from slabs, beams, columns etc. with manual Chisel and/ or by standard power driven percussion type or of approved make including tapering of all edges, making square shoulders of cavities including cleaning the exposed concrete surface and reinforcement with wire brushes etc. and disposal of debris for all lead and lifts all complete as per direction of Engineer-In-Charge				
15.1.1	50 mm average thickness	50.00	sqm	299.93	14997.00
15.1.2	25 mm average thickness	50.00	sqm	148.30	7415.00
15.2	Cleaning of reinforcement from rust from the reinforcing bars to give it a total rust free steel surface by using alkaline chemical rust remover of approved make with paint brush and removing loose particles after 24 hours of its application with wire brush and thoroughly washing with water and allowing it to dry, all complete as per direction of Engineer-In-Charge.				
15.2.1	Bars upto 12 mm diameter	200.00	metre	9.65	1930.00
15.2.2	Bars above 12 mm diameter	100.00	metre	19.25	1925.00
15.3	Providing, mixing and applying bonding coat of approved adhesive on chipped portion of RCC as per specifications and direction of Engineer- In-charge complete in all respect.				
15.3.1	SBR Polymer (@10% of cement weight) modified cementitious bond coat @ 2.2 kg cement per sqm of surface area mixed with specified proportion of approved polymer	75.00	sqm	165.20	12390.00
15.4	Providing, mixing and applying SBR polymer (of approved make) modified Cement mortar in proportion of 1:4 (1 cement: 4 graded coarse sand with polymer minimum 2% by wt. of cement used) as per specifications and directions of Engineer-in-charge.				

	Note: Measurement and payment: The pre-measurement of thickness shall be done just after the surface preparation is completed and Payment under this item shall be made only after proper wet curing has been done and surface has been satisfactorily evaluated by sounding / tapping with a blunt metal instrument and/or the 75 mm size cube crushing strength at the end of 28 days to be not less than 30 N/Sqmm2).				
15.4.1	25 mm average thickness in 2 layers.	50.00	sqm	687.20	34360.00
15.4.2	50 mm average thickness in 3 layers.	50.00	sqm	1374.40	68720.00
	Total				2510211.00
	The cost after using Correction Factor on items of the DSR 2023 on account of applicability of GST @ 0.973 as per O.M dated 08.08.2024.				2442435.00
16	Non Schedule Items				
16.1	Providing and applying 6 mm thick (average) premixed formulated one coat readymade plaster such as" PERMA, PRECISE CONCHEM or READYPLAST of Ultratech or equivalent of approved brand and manufacturer having additives and aggregates produced at automated dry mix plant and mixed with cement in cement mortar (1: 4) and polymers applied on hacked / uneven background such as bare brick / C.C. and block / RCC work on walls & ceiling at all floors and locations as per manufactures specification finished in smooth line and level etc. complete.	75.00	sqm	365.75	27431.00
16.2	Providing and applying 15 mm thick (average) premixed formulated one coat readymade plaster such as PERMA, PRECISE CONCHEM or READYPLAST of Ultratech or equivalent of approved brand and manufacturer having additives and aggregates produced at automated dry mix plant and mixed with cement in cement mortar (1: 4) and polymers applied on hacked / uneven background such as bare brick / C.C. and block / RCC				

	work on walls & ceiling at all floors and locations as per manufactures specification finished in smooth line and level etc. complete.	75.00	sqm	561.70	42128.00
16.3	Providing and applying 18 mm thick (average) premixed formulated one coat readymade plaster such as " PERMA, PRECISE CONCHEM or READYPLAST of Ultratech or equivalent of approved brand and manufacturer having additives and aggregates produced at automated dry mix plant and mixed with cement in cement mortar (1: 4) and polymers in two layers under layer 12 mm and top layer 6 mm thick applied on hacked / uneven background such as bare brick / C.C. and block / RCC work on walls & ceiling at all floors and locations as per manufactures specification finished in smooth line and level etc. complete.	75.00	sqm	714.60	53595.00
16.4	Providing services of Beldars for assisting Plumber, Carpenter, Sewerman, Mason etc. for attending day to day complaints of removal of chockage, cleaning of sewerlines, plumbing work, carpentry work & other essential/related works as per direction of Engineer-in-charge. All Labour involved is included and no extra payment shall be made separately. Cost of material shall be paid separately in the prevailing agmt. item.) Conditions:- 1. The work shall be carried out as per CPWD specifications. 2. No T and P will be supplied by the department. 3. The Contractor shall be responsible for any hindrances or damages to any property during the execution of work. 4. The work shall be carried out as per direction of Engineer-in-charge. 5. Any complaint shall be attended on the same day and signature of the complainant shall be taken in separate register showing nature of work after attending the complaint. Register should be verified by Engineer at site and payment shall be made accordingly. 6. Payment shall be made to the contractor in proportion to the work done. 7. The contractor shall engage a minimum of 1 (one) No of workers on the job on every working day (Except all Sundays and National Holidays) and any shortage found during inspection shall be recovered @ Rs. 500/- per day.	364.00	day	1114.35	405623.00

16.5	Providing services of Sewerman for cleaning of manhole, gully traps, sewerline by taking out sludge, silt and vegetation, if any, from the building and disposal of the same outside the campus including all labour and material involved, complete to make it functioning and as per the direction of Engineer-in-Charge. (initially all the manhole, gullytraps and sewerage lines related work to be done completely and any repair occur subsequently to be attended. Conditions:- 1. The work shall be carried out as per CPWD specifications. 2. No T and P will be supplied by the department. 3.The Contractor shall be responsible for any hindrances or damages to any property during the execution of work. 4. The work shall be carried out as per direction of Engineer-in-charge. 5. Any complaint shall be attended on the same day and signature of the complainant shall be taken in separate register showing nature of work after attending the complaint. Register should be verified by Engineer at site and payment shall be made accordingly. 6.Payment shall be made to the contractor in proportion to the work done. 7. The contractor shall engage a minimum of 1 (one) No of workers on the job on every working day (Except all Sundays and National Holidays) and any shortage found during inspection shall be recovered @ Rs. 500/- per day.	260.00	day	1114.35	289731.00
16.6	Providing services of plumber for repairing and maintaining the water supply line and fittings of internal and external pipe of all diameter, stacking and submitting the dismantled damaged material at the custody of Engineer at site and disposing the material at the custody of Engineer at site and disposing the debris, if any, outside the campus as per the direction of Engineer-in-charge. (Initially all the lines are to be checked completely of the campus and any repair occurs subsequently to be attended throughout the period of agreement. All labour involved included and no extra payment shall be made separately. Cost of material shall be paid separately after submitting proper vouchers.)				

	Conditions:- 1. The work shall be carried out as per CPWD specifications.2. No T and P will be supplied by the department.3.The Contractor shall be responsible for any hindrances or damages to any property during the execution of work.4. The work shall be carried out as per direction of Engineer-in-charge.5. Any complaint shall be attended on the same day and signature of the complainant shall be taken in separate register showing nature of work after attending the complaint. Register should be verified by Engineer at site and payment shall be made accordingly.6.Payment shall be made to the contractor in proportion to the work done.7. The contractor shall engage a minimum of 1 (one) No of workers on the job on every working day (Except all Sundays and National Holidays) and any shortage found during inspection shall be recovered @ Rs. 500/- per day.	260.00	day	1236.15	321399.00
16.7	Providing services of carpenter for doing all kind of repairing and maintaining the carpentry work inside the campus, stacking and submitting the dismantled/damaged material at the custody of Engineer at site and disposing the debris at the custody of Engineer at site and disposing the debris, If any, outside the campus as per the direction of Engineer-in-Charge.(Initially all the carpentry related work to be done completely and any repair occurs subsequently to be attended throughout the period of agreement. All Labour involved is included and no extra payment shall be made separately. Cost of material shall be paid separately in the prevailing agmt. item.) Conditions:- 1. The work shall be carried out as per CPWD specifications. 2. No T and P will be supplied by the department.3.The Contractor shall be responsible for any hindrances or damages to any property during the execution of work.4. The work shall be carried out as per direction of Engineer-in-charge.5. Any complaint shall be attended on the same day and signature of the complainant shall be taken in separate register showing nature of work after attending the complaint. Register should be verified by Engineer at site and payment shall be made accordingly. 6.Payment shall be made to the contractor in proportion to the work done.7. The contractor shall engage a minimum of 1 (one) No of workers on the job on every working day (Except all Sundays and National Holidays) and any shortage found during inspection shall be recovered @ Rs. 500/- per day.	260.00	day	1236.15	321399.00

16.8	Supplying C.P. long body brass bib cock with wall flange item code no. COP-CHR-107PM equivalent 15mm Nominal bore of approved make or equivalent as per direction of Engineer-in charge.	20	each	1377.60	27552.00
16.9	Supplying Pillar Cock with item code no. FUS-CHR-29001 of approved make or equivalent as per direction of Engineer-in charge.	25	each	1788.85	44721.00
16.10.	Supplying C.P. brass 2 way bib cock with wall flange item code no.KUP-COP-CHR-041PM of approved make or equivalent as per direction of Engineer-in charge.	15	each	1192.55	17888.00
16.11	Supplying C.P. brass angular stop cock with wall flange item code no.COP-CHR-057PM of approved make or equivalent as per direction of Engineer-in charge.	15	each	781.35	11720.00
16.12	Supplying Hand Shower (Health Faucet) (ABS Body) with 8mm Dia, 1 Meter Long body Flexible Tube & Wall Hook with N.R.V (Back Flow Preventer) item code no. ALD-CHR-577 of approved make or equivalent as per direction of Engineer-in charge.	30	each	1418.75	42563.00
16.13	Supplying overhead shower of 100 mm dia round shape single flow (ABS body chrome plated with grey face plate) with rubit cleaning system of item code no. OHS-CHR-1989 of approved make or equivalent as per direction of Engineer-in charge.	15	each	1274.80	19122.00
16.14	Supplying Soap Dispenser with Glass Bottle code: ACN-CHR-1135N of approved make or equivalent as per direction of Engineer-in charge.	5	each	1213.10	6066.00
16.15	Supplying C.P. brass bib cock with wall flange item code no. CQT-CHR-23047 of approved make or equivalent as per direction of Engineer-in charge.	20	each	1028.05	20561.00
16.16	Supplying Wall Mixer with Provision For Overhead Shower with 115mm Long Bend Pipe On Upper Side, Connecting Legs & Wall Flanges code no. FUS-CHR-29273UPR of approved make or equivalent as per direction of Engineer-in charge.	10	each	5551.55	55516.00
16.17	Supplying Toilet roll holder with Flap item code no. CPA-CHR-1153 of approved make or equivalent as per direction of Engineer-in charge.	10	each	1110.30	11103.00

16.18	Supplying Single Towel rail 450mm long item code no. CAN-CHR-1111BSM of approved make or equivalent as per direction of Engineer-in charge.	10	each	1130.90	11309.00
16.19	Supplying of Urinal With Fixing Accessories, Size: 355x340x535 mm item code no. CURS-WHT-13261 of approved make or equivalent as per direction of Engineer-in-charge.	5	each	3372.05	16860.00
16.20	Providing and fixing aluminium adjustable louvers with 4.00 thick froasted glass with necessary screws, fittings etc. complete .(cost of aluminium frame shall be paid separately)	5.00	sqm	1765.85	8829.00
17	Credit Items				
17.1	Credit for taking away the dismantled materials received form work such as Reinforcement bars, Rolling Shutters, CI Covers and Frames, CI or SCI pipes, MS Water tanks, CI Flushing cistern, M.S. grills and GI pipes etc. as per direction of Engineer-in-Charge.	50.00	kg	-38.95	-1948.00
17.2	Credit for dismantled materials received from the work:-Wooden, PVC items such as frames, shutters, windows and same like etc.	100.00	kg	-17.70	-1770.00
17.3	Credit for taking away the dismantled aluminium windows frames/shutters etc. .as per direction of Engineer-in-Charge.	50.00	kg	-153.40	-7670.00
	TOTAL				4186163.00
	% Above /%Below				
	CONTRACTOR				

Assistant Engineer (P)
MUMBAI-V, CPWD, Mumbai-20.

Executive Engineer
MUMBAI-V, CPWD, Mumbai-20

Central Public Works Department

NIT NO: - 17/EE/MUMBAI-V/2026-27

Name of Work: Annual repair and Maintenance of residential and non-residential building at IIPS Campus, Deonar Mumbai during 2026-27.

PART D

**O/o EXECUTIVE ENGINEER, MUMBAI-V
CENTRAL PUBLIC WORKS DEPARTMENT**

Central Public Works Department					
Proforma of Quoting the rates					
N.I.T. No: 17/EE/MUMBAI-V/2026-27					
Name of Work		Annual repair and Maintenance of residential and non-residential building at IIPS Campus, Deonar Mumbai during 2026-27.			
SCHEDULE OF QUANTITY					
Name of the Contractor					
Sl.No.	Name of component	Estimated cost	Percentage above or below or at part the estimated cost	% in Figures	Total Cost
1	CIVIL WORKS	Rs. 41,86,163/-			-
	Grand Total	Rs. 41,86,163/-			-

Executive Engineer
MUMBAI-V,
CPWD, Mumbai-20.