

PEC University of Technology
Sector-12, Chandigarh

Name of Work:- Providing & Installation of 300 Kg Hydraulic Passenger Lift including Civil Work in Computer Centre at PEC Sector- 12, Chandigarh

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CPWD – 6 FOR e – TENDERING

1. Item rate online bids are invited on behalf of Director PEC from the firms original manufacturer of dealing in Hydraulic Passenger Lift or eligible contractors of CPWD, Chandigarh Administration Registered Contractors, State PWDs of Haryana/ Punjab/ Himachal and their board and corporations which shall be uploaded and received on <http://etender.chd.nic.in> or www.pec.ac.in

Name of Work: **Providing & Installation of 300 Kg Hydraulic Passenger Lift including Civil Work in Computer Centre at PEC Sector- 12, Chandigarh.**

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.

- 1.1.1 The work is estimated to cost **Rs.13,17,590/-**. This estimate, however, is given merely as a rough guide.
- 1.1.2 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 who 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 bidder on prescribed Form No. CPWD 8 which is available as a Govt. of India Publication and also available on website www.cpwd.gov.in. Bidders shall quote his rates 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 **30 Days** 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.
- ii The architectural and structural drawings for the work shall be made available in phased manner as per requirement of the same as per approved programme of completion submitted by the contractor after award of work
5. The bid document consisting of building 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 - 2014 can be seen from website <http://etender.chd.nic.in> or www.pec.ac.in.
6. After submission of the bid the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified.
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 time and date of submission of bid as notified.
8. Earnest Money **Rs. 26,352/-** can be paid in the form of Demand Draft or Banker's Cheque (**drawn in favour of Director PEC University of Technology, Chandigarh**) and shall be scanned and uploaded to the e-Tendering website within the period of bid submission. **The original EMD should be deposited in the Estate Office, PEC within the period of bid submission.**

Copy of Enlistment Order and other documents as specified in the tender notice shall be scanned and uploaded to the e-Tendering website within the period of Bid submission. However, certified copy of all the scanned and uploaded documents as specified in tender notice shall have to be submitted by the lowest bidder only 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 the Estate Office** and other documents scanned and uploaded are found in order.

The bid submitted shall be opened at PM on

To be filled in by the University Engineer.

9. The bid submitted shall become invalid if :

- (i) The bidder is found ineligible.
 - (ii) The bidder does not deposit original EMD with Estate Office, PEC (The EMD document shall only be issued from the place in which receiving office is situated).**
 - (iii) The bidder does not upload all the documents (including service tax registration/VAT registration/Sales Tax registration) as stipulated in the bid document **including scanned copy of original EMD.**
 - (iv) 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.
 - (v) 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.
10. The contractor whose Bid is accepted, will be required to furnish performance guarantee of 5% (Five Percent) of the bid amount within the period specified in Schedule 'F'. This guarantee shall be in the form of cash (in case guarantee amount is less than Rs. 10,000/-) or Deposit at Call receipt of any scheduled bank/Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay order of any Scheduled Bank (in case guarantee amount is less than Rs.1,00,000/-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F', including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The earnest money deposited along with the bid shall be returned after receiving aforesaid performance guarantee.
11. Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent upon any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions 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.
- In addition to the above, bidders are advised to see for themselves the bridges existing on the approach passage to the site for assessing the position with regard to carriage of building materials and T&P. Nothing extra shall be payable to the successful bidder for any type of existing restricted conditions with regard to the above.
12. The competent authority on behalf of the Director PEC does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidders shall be summarily rejected.
13. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable for rejection.
14. The competent authority on behalf of Director PEC 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 PEC University of Technology if his near relative is posted in PEC 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 employee of PEC. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of PEC University of Technology, Chandigarh
16. No Engineer of gazetted rank or other Gazetted Officer employed in Engineering or Administrative duties in PEC University of Technology authority is allowed to work as a contractor for a period of one year after his retirement from PEC University of Technology, without the prior permission of the competent authority. 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 competent authority 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 (90) days from the date of opening of bids. If any bidder withdraws his bid before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms of conditions of the bid which are not acceptable to the Institute, then the Institute shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further 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 bidder/contractor, on acceptance of his bid by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of:-
 - b) 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.
 - c) Standard C.P.W.D. Form 8

19. **For Composite Tenders**

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

19.1.2 The bid document will include following three components:

Part A:- CPWD-6, CPWD form - 8 including schedule A to F for the major component of the work, Standard General Conditions of Contract for CPWD 2014 with all amendments/modifications upto date of submission of bid.

Part B:- General / specific conditions, specifications and schedule of quantities applicable to major component of the work.

Part C: Schedule A to F for minor component of the work. (The competent authority under clause 2 and clause 5 as mentioned in schedule A to F for major components) General/specific conditions, specifications and schedule of quantities applicable to minor component(s) of the work.

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

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

19.1.5 After acceptance of the bid by competent authority, **University Engineer** shall issue letter of award on behalf of Director, PEC. After the work is awarded, the contractor will have to enter into one agreement with University Engineer PEC University of Technology

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

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

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

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

- 19.1.10 The main contractor has to enter into agreement with contractor(s) associated by him for execution of minor component(s). Copy of such agreement shall be submitted to Engineer in-charge of each minor component as well as to Engineer in-charge of major component. In case of change of associate contractor, the main contractor has to enter into agreement with the new contractor associated by him.
- 19.1.11 Running payment for the major component shall be made by Engineer-in-charge of major discipline to the main contractor. Running payment for minor components shall be made by the Engineer-in-charge of the discipline of minor component directly to the main contractor.
- 19.1.12A The composite work shall be treated as complete when all the components of the work are complete. The completion certificate of composite work shall be recorded by Engineer-in-charge of major component after record of completion certificate of all other components.
- 19.1.12 B Final bill of whole work shall be finalized and paid by the Engineer-in-charge of major component.
- 19.1.13 It will be obligatory on the part of the bidder to sign the bid documents for all components before the first payment is released.
- 20 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 Estate office, then the bid submitted shall become invalid and the Institute shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the bidder shall not be allowed to participate in the retendering process of the work.

For & on behalf of the Director PEC

Signature

University Engineer

INFORMATION AND INSTRUCTIONS FOR CONTRACTORS FOR e-TENDERING FORMING PART OF NIT AND TO BE POSTED ON WEBSITE

The **University Engineer, Chandigarh** on behalf of President of India invites online Item rate bids from the firms original manufacturer of dealing in Hydraulic Passenger Lift or eligible contractors of CPWD, Chandigarh Administration Registered Contractors, State PWDs of Haryana/ Punjab/ Himachal and their board and corporations:

S. No.	Name of work & Location	Estimated cost put to bid	Earnest Money	Period of Completion	Last date & time of submission of bid.	Time & date of opening of tender
1	3	4	5	6	7	8
1	PROVIDING & INSTALLATION OF 300 KG HYDRAULIC PASSENGER LIFT INCLUDING CIVIL WORK IN COMPUTER CENTRE AT PEC SECTOR- 12, CHANDIGARH	Rs.13,17,590/-	Rs. 26,352/-	30 Days.	07.06.2017 at 03:00 PM	07.06.2017 at 03:30 PM

CONDITIONS:-

1 Non Chandigarh Administration registered contractors shall have to fulfill the criteria of satisfactory execution of works as given below:-	
(i) Three similar works, each of value not less than 40% of the estimated cost put to tender, or	
(ii) Two similar works, each of value not less than 60% of the estimated cost put to tender, or	
(iii) One similar work, of value not less than 80% of the estimated cost all amounts rounded off to a convenient full figure, in the last seven years ending on the last day of the month previous to the one in which the tenders are invited.	
AND	
One work of any nature (either part of above or separate one) costing not less than 40% of estimated cost with some Central/State Government/Central Public Sector Undertaking.	
Similar Works Mean – Civil & Lift Works	
The value of executed works shall be brought to current costing level of enhancing the actual value of work at simple rate of 7% per annum. Calculated from the date of completion to last date of receipt of tenders.	
The bidder should have average annual financial turnover of Rs.13,17,590/- on construction works during the last three years ending 31 March 2017(Scanned copy of certificate from CA to be uploaded)	
2. i)	Cover-1 Shall contain Earnest Money, copy of enlistment Certificate of work experience for Non Chandigarh Administration registered contractors.
ii)	Cover-2 Shall contain Financial Bid on the prescribed form
3.	Earnest Money in the form of Demand Draft (drawn in favour of Director PEC University of Technology, Chandigarh) shall be scanned and uploaded to the E-Tendering website within the period of bid submission. The physical EMD of the scanned copy of EMD uploaded shall be deposited by the lowest tenderer within a week after opening of financial bid, failing which the tenderer shall be rejected and enlistment of the agency shall be withdrawn by the enlisted authority. Further the following undertaking in this regard shall also be uploaded by the intending bidders:- "The physical EMD shall be deposited by me/us with the UE calling the tender in case i/We become the lowest tenderer within a week of the opening of financial bid otherwise department may reject the tender and also take action to withdraw my/our enlistment."
5.	The bidder should furnish the Affidavit that I/we hereby declare that I/we have not been black-listed, debarred/suspended by any Govt./Semi/ Corporation/Pvt. Organization during the last seven years.
6.	Bids document can be downloaded from the website of Chandigarh Administration www.pec.ac.in or http://etenders.chd.nic.in
7.	The Bidders shall have to submit their Bids on line in Electronic Format with digital signatures. For

	participation in e-tendering process the Bidder needs to register themselves on http://etenders.chd.nic.in
8.	The Bids shall be uploaded in Electronic Format on the website http://etenders.chd.nic.in . Scanned copies of Earnest Money Deposit, copy of affidavit and copy of enlistment shall also be uploaded along with Bid within prescribed time limit.
9.	The agency has to produce the original document as and when asked for by U.E. The failure of agency to furnish the said original document will entail summarily rejection of its tender.
10.	Instruction to Bidders regarding e-tendering process : –
	a. Tenders without digital signatures will not be accepted by The Electronic Tendering System. No tender will be accepted in physical form and in case it has been submitted in the physical form it shall be rejected summarily.
	b. Before submission of on-line Bids, Bidder must ensure that scanned copies of all the necessary documents have been uploaded with the Bid.
	c. It will be mandatory for all the bidders to upload all the documents mentioned under 'NIT Documents' template under the 'Cover Details'.
	d. The PEC University of Technology will not be responsible for any delay in on-line submission of the Bids due to any reason whatsoever.
	e. Bidder should get ready with the scanned copies of the EMD as specified in the tender document. The original installment in respect of the cost of Bid document, EMD and Hard copies of all the Eligibility Documents as uploaded by the Bidder should be submitted only to the designated Authority and within the stipulated time period.
	f. The details of EMD specified in the Tender documents should be the same as submitted on-line (scanned copies) otherwise tender will be rejected summarily.
11.	All disputes concerning in any way with this work are subject to the Chandigarh jurisdiction only.
12.	For detailed terms and conditions of the DNIT, relevant drawings etc. can also be seen in the office of the undersigned on any working day during office hours.
13.	Corrigendum/Addendum to this tender, if any, will be uploaded on the website mentioned above. This may be noted by the contractor/bidder.
14.	Conditional tenders or if Earnest Money not deposited within a week after opening of financial bid the tender will be rejected without assigning any reason.
15.	Successful tender shall be deposit an amount equal to 5% of the tendered and accepted value of the work as per performance guarantee.
16.	PEC University of Technology reserves the right to reject any or all the application/tenders without assigning any reason. Overall lowest bid will be criteria for finalization of tender.
17.	<p>The tender for the works shall remain open for acceptance for a period of 90 (days) from the opening of technical bid. If any tenderer withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier or makes any modifications in the terms and conditions of the tender which are not acceptable to the department, then the Competent Authority, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said Earnest Money as aforesaid and to forfeit the whole of the Earnest Money if the tenderer fails to submit the Performance Guarantee in the prescribed time after issue of letter of acceptance. Further, the tenderer shall not be allowed to participate in the re-tendering process of the work.</p> <p>In the event the tenderer whose tender is accepted and the award letter issued after the receipt of Performance Guarantee in the prescribed form and time, fails to commence the work "along with change in scope, if any" in the prescribed time or abandons work before its completion, the Director PEC University of Technology shall without prejudice to any other right or remedy be at liberty to forfeit the whole of the Earnest Money and Performance Guarantee shall stand forfeited in full and shall be absolutely at the disposal of the Director PEC University of Technology Chandigarh</p>
18.	The recovery of water charges shall be made as per Notification issued by the Secretary Local Govt. Chandigarh Administration vide notification No. 6/1/195-FII(8)2011/4088, dated 24.05.2011 conveyed vide E.E. M.C. P.H. Division No. 2 vide memo no. 1533-62, dated 02.06.2011.
19.	The contractor will ensure the enrollment of children of labourers working at their site of works in nearby school as per instructions of CEUT Chandigarh UO No.W1/2014/4045-46 dt.11.03.2014 received vide SEC-I Chd. Endst. No.W1/2014/1794-96 dt.18.03.2014.
20.	The contractor/agency will ensure that no children is engaged at the site of work.
21.	Agreement shall be drawn with the successful tenderer on prescribed CPWD Form No.8 as per "General conditions of the contract of CPWD works-2012" (which is available as a Govt. of India Publication) and the Amendment/changes in clauses of the General Conditions of the contract for CPWD works-2014 attached in Section- III . Tenderer shall quote his rates as per various terms and conditions of the said form, which will form part of the agreement.
22.	The time allowed for carrying out the work will be 30 days from the date of start as defined in Schedule 'F' or from the from date of allotment of above work, whichever is later, in accordance with the phasing, if any, indicated in the tender documents.
23.	The site for the work is available.
24.	Tender shall be accompanied with Earnest Money Rs.26,352/- in the shape of Demand Draft having validity for 3 months or more issued by a scheduled bank in favour of Director, PEC University of Technology, Chandigarh.
25.	The contractor whose tender is accepted will be required to deposit furnish performance guarantee of an

	amount equal to 5.00% (Five point Zero Percent) of the tendered amount with in the period specified in schedule F. This guarantee shall be in the form of demand draft of any scheduled bank payable at Chandigarh
26.	The description of the work is as follows: -
	Name of Work :- PROVIDING & INSTALLATION OF 300 KG HYDRAULIC PASSENGER LIFT INCLUDING CIVIL WORK IN COMPUTER CENTRE AT PEC SECTOR- 12, CHANDIGARH.
	Copies of other drawings and documents pertaining to the work will be open for inspection by the tenderers at the office of the University Engineer PEC University of Technology
	Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders 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 tender. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. The tenderer shall be responsible for arranging and maintaining at his own cost all materials, tools and 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 tender by a tenderer 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 Director PEC University of Technology and local condition and other factors having a bearing on the execution of the work.
27.	The competent authority on behalf of Director PEC University of Technology does not bind himself to accept the lowest or any other tender, and reserves to himself the authority to reject any or all of the tenders received without the assignment of any reason. All tenders, in which any of the prescribed conditions are not fulfilled or any condition including that of conditional rebate is put forth by the tenderer, shall be summarily rejected.
28.	Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.
29.	The competent authority on behalf of Director PEC University of Technology reserves to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.
30	The tender for the works shall remain open for acceptance for a period of ninety days from the opening of financial bid. If any tenderer withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier or makes any modifications in the terms and conditions of the tender which are not acceptable to the Director PEC University of Technology, then the Director PEC University of Technology shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said Earnest Money as aforesaid and to forfeit the whole of the Earnest Money if the tenderer fails to submit the Performance Guarantee in the prescribed time after issue of letter of acceptance. Further, the tenderer shall not be allowed to participate in the re-tendering process of the work.
	In the event the tenderer whose tender is accepted and the award letter issued after the receipt of Performance Guarantee MOU signed with requisite associates in the prescribed form and time, fails to commence the work "along with change in scope, if any" in the prescribed time or abandons work before its completion, the Director PEC University of Technology shall without prejudice to any other right or remedy be at liberty to forfeit the whole of the Earnest Money and Performance Guarantee shall stand forfeited in full and shall be absolutely at the disposal of the Director PEC University of Technology
31	This Notice Inviting Tender shall form a part of the contract document. The successful tenderer/contractor, on acceptance of his tender by the accepting authority, shall, within 10 days from the stipulated date of start of the work sign the different component part of the contract consisting of:-
31.1	The notice inviting tender, all the documents including additional conditions, specifications and drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
33.	For any Technical Issue related to Electronic Tendering Portal, Bidders may contact IT Cell, DIT, Additional Deluxe Building 5 th Floor, Sector-9, Chandigarh or email at etender@chd.nic.in , Phone No.0172-2740641,0172-2740003
	For & on behalf of the Director PEC University of Technology Signature.....
	University Engineer PEC University of Technology Chandigarh

LIST OF DOCUMENT TO BE UPLOADED BY THE BIDDERS		
1.	Fee i)	EMD
	ii)	Check List
2.	Post Qualification/ Technical	Letter of Transmittal
	i)	Form 'A' Financial formation & Audited Balance sheet, Balance sheet for the last three years duly certified by the CA
	ii)	Form 'B' Solvency Certificate
	iii)	Form 'C' similar works during the last three years
	iv)	Affidavit regarding i) No criminal proceedings and submission of genuine and correct documents. ii) Confirmation that eligible similar works has/have not been got executed through another contractor on back to back basis.
	v)	Certificate of registration with EPFO and ESIC
	vi)	List of other documents to be submitted in the shape of hard copies to the University Engineer as form E1, copy of PAN number.

University Engineer

(For and on behalf of Director PEC)

CHECK LIST FOR CONTRACTORS FOR SUBMISSION OF TENDERS ONLINE:

1. TENDER TO BE WITNESSED AT PAGE NO. 12 OF TENDERED DOCUMENTS.
2. THE TENDER / TENDERS CONTAINING CONDITIONS CONTRARY TO THOSE SPECIFIED IN THIS DOCUMENT SHALL BE SUMMARILY REJECTED.
3. IN SCHEDULE OF QUANTITIES APPENDED TO THE TENDER DOCUMENTS AT **PAGE NO.60 to 62**. THE RATES MUST BE FILLED BOTH IN WORDS AND FIGURES. THE AMOUNT SHOULD BE WORKED OUT FOR INDIVIDUAL ITEMS AND TOTALLING DONE.
4. THE CONTRACTOR(S) SHALL QUOTE THE RATES KEEPING IN MIND, GENERAL CONDITIONS OF CONTRACT OF CPWD WORKS-2014 AS CORRECTED AND AMENDED UPTO DATE, SPECIAL CONDITIONS AND PARTICULAR SPECIFICATIONS ETC.
5. IT MAY BE NOTED THAT IN THE PRESENT CONTRACT 10CC IS NOT APPLICABLE.
6. IT WILL BE MANDATORY TO CONSTITUTE DISPUTE REDRESSAL COMMITTEE (DRC) & CONTRACTOR OR DEPARTMENT CAN ONLY SEEK ARBITRATION IF NOT SATISFIED WITH THE DECISION OF DRC. DRC SHALL BE HEADED BY DIRECTOR PEC WHEN TOTAL CLAIMS ARE MORE THAN **Rs. 05.00 LACS** & BY REGISTRAR PEC WHEN TOTAL CLAIM ARE LESS THAN **Rs. 05.00 LACS**. THIS SHOULD BE READ ALONGWITH PROVISION OF CLAUSE 25 OF GCC 2014 DULY AMENDED & MODIFIED UPTO DATE.
7. **SITE TEST REGISTERS & MAS REGISTERES TO BE MAINATINED BY CONTRACTOR:-**
FOR ALL THE NEW CONTRACTS TO BE DRAWN IN FUTURE ALL TEST REGISTERS AND MATERIAL AT SITE REGISTERS SHALL BE MAINTAINED BY THE CONTRACTOR WHICH WILL BE REVIEWED BY THE OFFICERS OF PEC UT AT REGULAR INTERVALS.

PEC UNIVERSITY OF TECHNOLOGY
SECTOR-12, CHANDIGARH.

STATE: UT Authority: PEC

BRANCH: ESTATE OFFICE ,
UNIVERSITY ENGINEER PEC UNIVERSITY,
OF TECHNOLOGY, CHANDIGARH.

ZONE; CHANDIGARH

ITEM RATE TENDER & CONTRACT FOR WORKS

Tender for the work of:- **Providing & Installation of 300 Kg Hydraulic Passenger Lift including Civil work in Computer Centre at PEC Sector-12, Chandigarh**

(A)

- i) to be submitted online by **03.00 P.M.** on **07.06.2017** through website <http://etender.chd.nic.in> to **University Engineer PEC University of Technology Sector 12 Chandigarh**
- ii) Technical bid to be downloaded online in presence of bidder/ their authorized representatives who may like to be present at **03:30 P.M.** on **07.06.2017** in the Estate Office, PEC University of Technology, Sector-12, Chandigarh.

T E N D E R

I/We have read and examined the Notice Inviting Tender, Schedule A, B, C, D, E & F, Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, Clauses of Contract, Special Conditions, Schedule of Rate and 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 Director PEC within the time specified in Schedule 'F', viz. Schedule of Quantities and in accordance in all respects with the Specifications, Designs, Drawings and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of Contract and with such materials as are provided for, by and in respects in accordance with, such conditions so far as applicable.

We agree to keep the tender open for (90) thirty days from the date of opening of tender and not to make any modifications in its terms and conditions.

A sum of **Rs. 26,352/-** is hereby forwarded in the form of Demand Draft or Banker Cheque of a Scheduled Bank/ as earnest money. If I/we fail to furnish the prescribed Performance Guarantee within prescribed period, I/we agree that the said Director PEC or his successor 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 the work as specified. I/we agree that Director PEC or his successors in office shall, without prejudice to any other right or remedy available in law, be at liberty to forfeit the said Performance Guarantee absolutely, The said Performance Guarantee shall be a Guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 & 12.3 of the tender form. **Further, I/We agree that in case of forfeiture of earnest money or Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.**

I / We undertake and confirm that eligible 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 therefrom to any person other than a person to whom I/we am/are may authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Dated: <input type="checkbox"/>	}	Signature of Contractor	}
Witness: - <input type="checkbox"/>		Postal Address: -	
Address: - <input type="checkbox"/>		Telephone No.	
Occupation: - <input type="checkbox"/>		Fax:-	
		E-Mail:-	

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the Director PEC, University of Technology for a sum of Rs..... (Rupees.....)
The letters referred to below shall form part of this contract agreement.
For & on behalf of the Director PEC.

For & on behalf of the Director PEC

University Engineer
PEC University of Technology

SCHEDULES

SCHEDULE 'A'

Schedule of quantities

As per page No.60-62

SCHEDULE 'B'

Schedule of materials to be issued to the contractor.

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

SCHEDULE 'C'

Tools and plants to be hired to the contractor

S.NO.	DESCRIPTION.	HIRE CHARGES PER DAY	PLACE OF ISSUE
_____ NIL _____			

SCHEDULE 'D'

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

1.	Special Conditions	-	Page No.18-27
2.	Particular Specifications.	-	Page No.28-42
3.	Annexure	-	Page No.43-51
4.	Integrity Pact	-	Page No.52-57
5.	Particular specification of lift	-	Page No.58-59

SCHEDULE 'E'

Reference to General Conditions of Contract.

1.1	Name of work :-	Providing & Installation of 300 Kg Hydraulic Passenger Lift including Civil work in Computer Centre at PEC Sector-12, Chandigarh
1.2	Estimated Cost of work: -	Rs.13,17,590/-
1.3	Earnest Money: -	Rs. 26,352/- (to be returned after receiving performance guarantee).
1.4	Performance Guarantee	5.00% of tendered value
1.5	Security Deposit	2.50% of tendered value.

SCHEDULE 'F':-

General Rules & Directions:-

Officer Inviting Tender: -

University Engineer

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3

Refer Clause-12

Definitions:-

2(i)	Engineer-In-Charge	University Engineer, PEC
2(ii)	Accepting Authority	Director, PEC
2(iii)	Percentage on cost of materials and labour to cover all overheads and profits	15%
2(iv)	Standard Schedule of Rates	Delhi Schedule of Rates 2014 with upto date correction slips
2(v)	Department	Estate Officer PEC
2(vi)	Standard CPWD Contract	Form GCC 2014, CPWD Form 8 modified and duly amended up to date of submission of tender .

Clause-1:-

- | | | |
|------|---|---|
| (i) | Time allowed for submission of performance guarantee, thereof from the date of issue of letter of acceptance. | 15 days |
| (ii) | Maximum allowable extension | 1 to 15 days with late fee @ 0.1% per day of Performance Guarantee amount beyond the period provided in (i) above. |

Clause-2:- I. Authority for fixing compensation under clause-2.

Director PEC U.T.

II. Whether clause-2A shall be applicable.

No.

Clause-5:- Number of days from the date of issue of letter of acceptance for reckoning date of start

14 days

Mile Stone

Refer Table of Milestones at **Page No.17**

Time allowed for execution of work

30 Days.

Authority to decide

- | | | |
|------|--|---------------|
| i. | Extension of time for | Registrar PEC |
| ii. | Re-scheduling of Mile stone | Registrar PEC |
| iii. | Shifting of date of start in case of delay in handing over of site | Registrar PEC |

Clause-6, 6A:-

Clause applicable- (6 or 6A) :-

6(For works costing upto Rs.5.00 lacs
6A(For works costing above Rs. 5.00 lacs

Clause-7:-Gross work to be done together with net payment / adjustment of advances for material collected, if any, since the last such payment being eligible to interim payment.

Refer Para (B) Table of mile stone at for Page No.17

Clause-11:- Specifications to be followed for Execution of work

CPWD Specifications 2009 Vol. I & II with upto date correction slips i/c special conditions and particular specifications as attached in NIT.

Clause-12:- Type of work

Renovation of Old Building

12.2 & 12.3 Deviation limit beyond which Clause 12.2 & 12.3 shall apply for maintenance work

Any quantity increased/ decreased shall be carried out by the contractual agency at contractual rate

Clause-16:- Competent Authority for deciding reduced rates.

As per appropriate clause of CPWD Works Manual 2014(University Engineer with prior approval from Director, PEC University of Technology

Clause-25:-

Constitution of Dispute Redressal Committee (DRC)	Competent Authority to appoint DRC
DRC shall constitute one Chairman and two members	Director, PEC Chandigarh

Clause-36 (i)

Sr. No.	Minimum Qualification of Technical Representative	Discipline	Designation (Principal Technical/ Technical Representative	Minimum Experience	Number	Rate at which recovery shall be made from contractor in the event of non deployment.	
						Figures	Words
1	Minimum Diploma Engineer	Civil + Electrical (for composite work)	Principle Technical Representative (Project Planning/ Site/billing Engineer).	2 Years. 5 years.	1 No	Rs.10,000/- per month.	Rupees Ten thousand only per month.

***For works costing more than 10.00 lacs**

Assistant Engineers retired from Government Services that are holding Diploma will be treated at par with Graduate Engineers. Diploma holder with minimum 10 years relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for purpose of such deployment subject to the conditions that diploma holder should not exceed 50 % of requirement of degree Engineers. The contractor shall submit a certificate of such employment of the technical representative(s) (in the form of copy of Form-16 or CPF deduction issued to the Engineers employed by him) along with every account bill/final bill and shall produce evidence if at any times so required by the Engineer-in-charge.

Clause-42:-

- | | | |
|-------|--|---|
| i) a) | Schedule / Statement for determining theoretical quantity of cement & bitumen | Delhi Schedule of Rates 2014 with upto date correction slips. |
| ii) | Variations permissible on theoretical quantities. | |
| a) | Cement for works with estimated cost put to tender for more than Rs. 5 Lacs. | 2% plus / minus. |
| b) | Steel Reinforcement and structural steel sections for each diameter, section and category. | 2% plus / minus. |
| c) | All other materials. | Nil. |
| d) | Bitumen for all work. | 2.5% Plus only. |

RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

S.No.	Description of item	Rates in figures and words at which recovery shall be made from the contractor	
		Excess beyond Permissible Variation	Less use from the permissible variation
1.	Cement	As per CPWD work Manual	As per CPWD Manual
2.	Steel		

Note: The rates are excluding VAT and Cartage from stock yard to site.

TABLE OF MILE STONE (S)

Name of work: Providing & Installation of 300 Kg Hydraulic Passenger Lift including Civil Work in Computer Centre at PEC Sector- 12, Chandigarh

Financial Terms:-

SI No.	Financial Progress	Time Allowed (from date of start)	Amount to be withheld in case of non achievement of milestone
1.	1/8 th (of Whole work)	1/4 th (of whole time)	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 failures of each milestone.
2.	3/8 th (of Whole work)	1/2 th (of whole time)	
3.	3/4 th (of Whole work)	3/4 th (of whole time)	
4.	Full	Full	

Para (B): -

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.13,17,590/-

SPECIAL CONDITIONS

1.0 General

- 1.1 Except for the items, for which Particular Specifications are given or where it is specifically mentioned otherwise in the description of the items in the schedule of quantities, the work shall generally be carried out in accordance with the "CPWD Specifications 2009 Vol. I & II" and as per instructions of Engineer-in-Charge. Wherever CPWD Specifications are silent, the latest IS Codes / Specifications shall be followed and the rates should be all inclusive.

In the case of discrepancy between the Schedule of Quantities, the Specifications and/ or the Drawings, the following order of preference shall be observed:-

- (i) Nomenclature of item as per Schedule of Quantities
- (ii) Special Conditions.
- (iii) Particular Specifications.
- (iv) CPWD Specifications.
- (v) Architectural Drawings.
- (vi) Indian Standard Specifications of B.I.S.
- (vii) All non-schedule items shall be governed by manufacturer's specifications.

The works to be under taken by the contractor shall inter-alia include the following:

- i. Preparation of detailed SHOP drawings and AS BUILT drawings
- ii. Obtaining of Statutory permissions where-ever applicable and required.
- iii. Pre-commissioning tests as per relevant standard specifications, code of practice, Acts and Rules wherever required.
- iv. Warranty obligation for the equipment supplied by the contractor.

Contractor shall provide all the shop drawings for all the co-ordinated services before starting any work or placing any order for any of the services MEP system etc. These shop drawings shall be got approved from engineer in-charge before implementation and this shall be binding on the contractor. The contractor shall submit material submittals along with material sample for site engineer approval prior to delivery of material at site.

- 1.2 Any reference made to any Indian Standard Specifications, shall imply to the latest version of that standard, including such revisions / amendments as issued by the Bureau of Indian Standards upto last date of receipt of tenders. **The Contractor shall keep at his own cost all such publications including relevant Indian Standard applicable to the work at site.**
- 1.3 The work shall be executed and measured as per metric dimensions given in the Schedule of Quantities, drawings etc. (FPS units wherever indicated are for guidelines only).
- 1.4 The work should be planned in a systematic manner so that chase cuttings in the walls, ceilings and floors is minimized. Wherever absolutely essential, the chase shall be cut using chase cutting machines. Chases will not be allowed to be cut using hammer / chisel. The electrical boxes should be fixed in walls simultaneously while raising the brick work. The contractor shall ensure proper co-ordination of various disciplines viz. sanitary & water supply, horticulture & electrical etc.
- 1.5 All the hidden items such as water supply lines, drainage pipes, conduits, sewers etc. are to be properly tested before covering.
- 1.6 Samples including brand / quality of materials and fittings to be used in the work 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.
- 1.7 Equipment like concrete pump excavators/Transit mixer etc. shall be allowed to be moved away from the site when, in written opinion of Engineer-in-Charge, the same are no longer required at site of work.
- 1.8 The contractor, his agents / representative, workman etc. shall strictly observe orders pertaining to fire precautions prevailing in the area.
- 1.9 Contractor(s) shall study the soil investigation report for the site, available in the office of the Engineer-in-Charge and satisfy himself about complete characteristics of soil and other parameters at site. However,

- no claim on the alleged inadequacy or incorrectness of the soil data supplied by the department shall be entertained.
- 1.10 The tenderer shall see the approaches to the site. In case any approach from main road is required at site or existing approach is to be improved and maintained for cartage of materials by the contractor, the same shall be provided, improved and maintained by the contractor at his own cost.
 - 1.11 Contractor shall take all precautionary measures to avoid any damage to adjoining property. All necessary arrangement shall be made at his own cost.
 - 1.12 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 damages and accidents caused to work due to negligence on his part. No hindrances shall be caused to traffic, during the execution of the work.
 - 1.13 The contractor shall take instructions from the Engineer-in-Charge regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, compound wall, services etc are to be constructed.
 - 1.14 The contractor shall provide at his own cost suitable weighing, surveying and leveling and measuring arrangements as may be necessary at site for checking. All such equipments shall be got calibrated in advance from laboratory, approved by the Engineer-in-Charge. Nothing extra shall be payable on this account.
 - 1.15 Contractor shall provide permanent bench marks, flag tops and other reference points for the proper execution of work and these shall be preserved till the end of work. All such reference points shall be in relation to the levels and locations, given in the Architectural and plumbing drawings.
 - 1.16 Water tanks, taps, sanitary, water supply and drainage pipes, fittings and accessories should conform to byelaws and municipal body / corporation where CPWD Specifications are not applicable. The contractor should get the materials (fixtures/fittings) tested by the Municipal Body / Corporation authorities wherever required at his own cost.
 - 1.17 The work shall be carried out in accordance with the Architectural drawings and Structural drawings, to be issued from time to time, by the Engineer-in-Charge. Before commencement of any item of work, the contractor shall correlate all the relevant architectural and structural drawings issued for the work, nomenclature of items, specifications etc. and satisfy himself that the information available there from is complete and unambiguous. The figures & the written dimensions of the drawing shall supercede the measurement by scale. The discrepancy, if any, shall be brought to the notice of the Engineer-in-Charge for immediate decision before execution of the work. The contractor alone shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and/ or incomplete information and no claim, whatsoever shall be entertained on this account.
 - 1.18 The Architectural drawings other than those indicated in nomenclature of items are only indicative of the nature of the work and materials/fittings involved unless and otherwise specifically mentioned.
 - 1.19 The contractor should submit the shop drawing of staging and shuttering for approval of Engineer-in-Charge before actually commencing the execution of work under the item. Nothing extra shall be payable on this account.
 - 1.20 Other agencies may also simultaneously execute and install the works and the contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings, trenches etc. as may be required for such related works (for which inserts, sleeves, brackets, conduits, base plates, clamps etc. shall be available as specified elsewhere in the contract) and the contractor shall fix the same at the time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.
 - 1.21 The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer-in-Charge and shall as far as possible arrange his work and shall place and dispose off the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of others.
 - 1.22 All material shall only be brought at site as per program finalized with the Engineer-in-Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid

for.

1.23 The contractor shall procure the required materials in advance so that there is sufficient time for testing of the materials and approval of the same before use in the work.

1.24 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. In case temporary supporting/shifting of such services is required to facilitate the work, the same shall be done by the contractor at no extra cost.

In case the existing services are to be shifted permanently, then before dismantling the existing services, alternate/diversion of service lines has to be laid by the contractor so that there is no interruption in use of existing services. The contractor has to plan the alternate suitable route for diversion/shifting of service lines and get the same approved from the Engineer-in-Charge before starting shifting of services. Nothing extra shall be paid except the payment of dismantling and laying of new service lines as per conditions of contract.

1.25 The contractor shall be responsible for the watch and ward / guard of the buildings, safety of all fittings and fixtures including sanitary and water supply fittings and fixtures provided by him against pilferage and breakage during the period of installations and thereafter till the building is physically handed over to the department. No extra payment shall be made on this account.

1.26 The contractor shall be fully responsible for the safe custody of materials brought by him/ issued to him even though the materials may be under double lock key system.

1.27 For construction works which are likely to generate malba / rubbish to the tune of more than a tempo / truck load, contractor shall dispose of malba, rubbish & other unserviceable materials and wastes at his own cost to the notified specified dumping ground and under no circumstances these shall be stacked / dumped even temporarily, outside the construction premises.

1.28 On completion of work, the contractor shall submit at his own cost four prints of "as built" drawings to the Engineer-in-Charge. These drawings shall have the following information.

- a) Run off of all piping and their diameters including soil, waste pipes and vertical stacks.
- b) Ground and invert level of all drainage pipes together with locations of all manholes and connections, upto out fall.
- c) Run off of all water supply lines with diameters, location of control valves, access panels etc.

In case the contractor fails to supply "as built drawing" aforesaid within 30 days of the date of completion, then the recovery @ Rs.5,000/- each for such set of drawings shall be made from the contractor's final bill.

1.29 In the item of providing and fixing precast reinforced cement concrete in shelves the cost of cutting chases and making good the same shall be inclusive in the item and nothing extra shall be paid on this account.

2.0 Unless otherwise specified in the schedule of quantities or CPWD specifications, the rates for respective items shall be all inclusive and apply to the following: -

- (i) All lifts & all heights, floors including terrace, leads and depths.
- (ii) All labour, material, tools and plants and other inputs involved in the execution of the item.
- (iii) Any of the conditions and specifications mentioned in the tender documents.
- (iv) Pumping / bailing out surface water / rain water / sub soil water, if necessary for any reason.
- (v) Providing sunk flooring in bath-rooms, kitchen, etc.
- (vi) Any legal or financial implications resulting out of disposal of earth, if any.
- (vii) Payment of Royalty at the prevailing rates, if any, on the boulders, metal, shingle, sand and bajri etc. or any other material collected by him for the work direct to revenue authorities.
- (viii) Performance test of the entire installation(s) before the work is finally accepted.

- (ix) Any cement slurry added over base surface (or) for continuation of concreting for better bond is deemed to have been built in the items.
- (x) All incidental charges for cartage, storage and safe custody of materials brought to site.

3.0. TESTING OF MATERIAL: -

3.1 Samples of materials required for testing shall be provided free of charge by the contractor. The cost of tests shall be borne by the contractor / department in the manner indicated below: -

- a) By the contractor, if the results show that the material does not conform to relevant specifications.
- b) By the department, if the results show that the material conforms to relevant specifications.

All other expenditure required to be incurred for taking samples; conveyance, packing etc. shall be borne by the contractor himself.

However, testing of material in the lab of PEC may be allowed by University Engineer without prior approval of Director PEC or higher officers provided these labs have all necessary facility to carry out the required tests.

3.2 However, if any ultrasonic pulse velocity / load testing or special testing is to be done for concrete whose strength is doubtful, the cost of the same shall be borne by the contractor.

3.3 In case there is any discrepancy in frequency of testing as given in list of mandatory tests and that in individual sub-heads of work as per CPWD Specifications higher of the two frequencies of testing shall be followed and nothing extra shall be payable on this account.

4.0 SECURITY

4.1 The contractor shall take all steps necessary that all persons employed on any work in connection with the contract have notice that the Indian Official Secrets Act 1923 applies to them & will continue so to apply even after the execution of such works under the contract.

4.2 The contract is confidential and must be strictly confined to the contractor's own use (except so far as confidential disclosure to sub-contractors or suppliers as necessary) and to the purpose of the contract.

4.3 All documents, copies thereof & extracts there from furnished to the contractor shall be returned to the Engineer-in-Charge on the completion of the work / works or the earlier determination of the contract.

5.0 LABOUR AND SECURITY

5.1 Contractor should provide his plan for labour huts as per his requirement and get it approved from the Engineer-in-Charge. The contractor will be provided space for labour huts etc. inside the campus but the space requirement and location, as assessed by Engineer-in-Charge shall be final and binding.

5.2 Contractor has to follow the security requirement of the campus and obtain necessary entry passes for the labour and vehicles and follow security checks at entry / exit gates, restriction on movement of vehicle, restricted timings of working etc. The Department however shall assist the contractor in obtaining such passes for movement of vehicles and labour. No claim whatsoever shall be entertained on account of delay in entry of vehicles and labour including restrictions in working hours, if there is any.

5.3 The contractor shall employ only Indian Nationals after verifying their antecedents and loyalty. The contractor shall, on demand submit list of his agents, employees and work people concerned & shall satisfy as to the bonafides of such people.

5.4 The contractor & his work people shall observe all relevant rules regarding security promulgated in which work is to be carried out by the Controlling Administrative Authority of the campus/area (hereinafter referred to as "Administrator").

5.5 The contractor, his representative, workman shall be allowed to enter through specified gates & timing as laid down by the controlling authority. They shall be issued an identity card or an individual pass in accordance with the standing rules & regulations & they should possess the same while working. The contractor shall be responsible for the conduct & actions of his workman, agents / representatives.

5.6 Normally contractor shall be allowed to carryout work between 7 AM to 6 PM. However, he may also be allowed to carryout the work beyond 6 PM & upto 7 AM if the site conditions / circumstances so demand

with prior written permission from the "Administrator". However, if the work is carried out in more than one shift or at night, no claim on this account shall be entertained.

5.7 Normally contractor's material / vehicles etc shall be allowed to move in / go-out between 7 AM to 7 PM only & no movement of material / vehicles out of site of work shall be allowed during night hours unless specific permission is obtained from the "Administrator".

5.8 In case if a separate entry has been allowed, the contractor has to make all arrangement for making a separate entry gate and barricading of the working area to segregate/separate the same from other areas. All these have to be done by the contractor at his own cost including safeguarding any untoward incident in the restricted area due to separate entry gate and barricading arranged by the contractor. No extra amount on this account shall be payable by the department.

6.0 **PROGRAM CHART: -**

6.1 The Contractor shall prepare an integrated program chart in MS Project, for the execution of work, showing clearly all activities from the start of work to completion, with details of manpower, equipment and machinery required for the fulfillment of the program within the stipulated period or earlier and submit the same for approval of the Engineer-in-Charge within **15 days** of the issue of letter of acceptance for the contract.

6.2 The work has to be completed in stages as indicated in the **Milestones under Schedule 'F'** and the program should be prepared in such a manner to achieve these Milestones as indicated therein or earlier.

6.3 The program chart should include the following: -

- a) Descriptive note explaining sequence of various activities.
- b) Network (PERT / CPM / BAR CHART) prepared on MS Project software which will indicate resources in financial terms, manpower and specialized equipment for every important stage.
- c) Program for procurement of materials by the contractor.
- d) Program of procurement of machinery / equipments having adequate capacity, commensurate with the quantum of work to be done within the stipulated period, by the contractor.

6.4 If at any time, it appears to the Engineer-in-Charge that the actual progress of work does not conform to the approved program referred above, the contractor shall produce a revised program showing the modifications to the approved program by additional inputs to ensure completion of the work within the stipulated time.

6.5 The submission of revised program or approval by the Engineer-in-Charge of such program or the furnishing of such particulars shall not relieve the contractor of any of his duties or responsibilities under the contract. This is without prejudice to the right of Engineer-in-Charge to take action against the contractor as per terms and conditions of the agreement.

Notwithstanding the fact that the contractor will have to pay to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour regulations and the agreement entered upon and/or extra amounts for any other reason.

7.0 **PROGRESS AND MONITORING OF WORK:**

Contractor shall give the Engineer-in-Charge on the 10th day of each month, progress report of the work done during the previous month. Such progress report will include the project progress summary, work progress (planned v/s. actual), PERT chart, milestone status, financial progress status, manpower deployment status, important materials consumed, materials at site at the beginning of the month, materials consumed during the month and the balance quantities at the end of month and progress of the work stating the reasons for shortfall, if any including the steps and measures to be taken for making good the shortfall in the succeeding period. Non submission of aforesaid progress report shall make contractor liable for action under breach of contract conditions.

8.0 SAMPLE OF MATERIALS:-

8.1 All materials and fittings 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. If a particular brand of material is specified in the item of work in Schedule of Quantity, the same shall be used after getting the same approved from Engineer-in-Charge. Wherever brand / quality of material is not specified in the item of work, the contractor shall submit the samples as per **List of Preferred Makes as at Page No.49 to 50** for approval of Engineer-in-Charge. For all other items, ISI Marked materials and fittings shall be used with the approval of Engineer-in-Charge. Wherever ISI Marked material / fittings are not available, the contractor shall submit samples of materials / fittings manufactured by firms of repute conforming to relevant Specifications or IS codes for the approval of Engineer-in-Charge.

8.2 To avoid delay, contractor should submit samples as stated above well in advance so as to give timely orders for procurement. If any material, even though approved by Engineer-in-Charge is found defective or not conforming to specifications shall be replaced / removed by the contractor at his own risk & cost.

8.3. BIS marked materials except otherwise specified shall also be subjected to quality test 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, 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 relevant to the material and / or the work done.

BIS marked items (except cement & steel for which separate provisions have been made in para 10.0) required on the work shall be got tested, for only important tests, which govern the quality of the product, as decided by the Engineer-in-Charge. The frequency of such tests (except the mandatory test) shall be 5% of the frequency as specified in BIS. For mandatory test, frequency shall be as specified in the CPWD Specifications

8.4 For certain items, if frequency of tests is neither mentioned in the CPWD Specifications & BIS, then tests shall be carried out as per decision of Engineer-in-Charge.

9.0 CEMENT & STEEL REINFORCEMENT (IF NOT STIPULATED TO BE SUPPLIED BY THE DEPARTMENT).

9.1 Contractor has to produce manufacturers test certificate for each lot of Cement & Steel Reinforcement procured at site.

9.2 CEMENT:-

9.2.1 The contractor shall procure 43 Grade Ordinary Portland Cement and/or Portland Pozzolona Cement (Fly Ash based), required in the work from reputed manufacturers of cement as per the approved make in 50 kg. bags bearing manufacturer's name and ISI marking, along with manufacturers test certificate for each lot. Portland Pozzolona Cement is to be used for RCC works only subject to fulfillment of conditions of circular number CDO / SE (RR) / fly ash (MAN) 02 dated 09.04.09. In case contractor / firm uses OPC only nothing extra shall be paid.

9.2.2 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. The cement for such testing purpose shall be supplied by the contractor free of charge. 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. The cost of tests shall be borne by the contractor/department in the manner indicated below

- i) By the contractor, if the results show that the cement does not conform to relevant BIS Codes.
- ii) By the department, if the results show that the cement conforms to relevant BIS Codes.

9.2.3 OPC/ PPC shall be brought at site in bulk supply of approximately 30 tonnes or as decided by the Engineer-in-Charge.

- 9.2.4 OPC/ PPC bags shall be stored in separate godowns. Separate godowns for tested cement and fresh cement (under testing) to be constructed by the contractor at his own cost as per sketches given in C.P.W.D Specifications having weather-proof roofs and walls. The size of the cement godown is indicated in the sketches for guidance. The actual size of godown shall be as per site requirements and nothing extra shall be paid for the same. Each godown shall be provided with a single door with two locks. The keys of one lock shall remain with Engineer-in-Charge of the work 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 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 and Engineer-in-Charge or his authorized representative in token of its correctness.

The day to day receipt and issue accounts of different grade/brand of cement shall be maintained separately in the standard proforma by the contractor or his authorized representative which shall be duly signed by the authorized representative of the Engineer-in-Charge before issue to the work on day to day basis.

The capacity of each cement go-down shall be 1000 bags of cement or more as decided by the Engineer-in-Charge and shall be constructed by the contractor at site of work and at the site of batching plant for which no extra payment shall be made. The contractor shall be responsible for the watch and ward and safety of the cement go-downs. The contractor shall facilitate the inspection of the cement go-downs by the Engineer-in-Charge at any time

- 9.2.5 The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in the contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in Clause-42 of the contract and shall be governed by the conditions laid therein.

- 9.2.6 If the quantity of cement actually used in the work is found to be more than the theoretical quantity of cement including authorized variation, nothing extra shall be payable to the contractor on this account. In the event of it being discovered that after the completion of the work, the quantity of cement used is less than the quantity ascertained as herein before provided (allowing variation on the minus side as stipulated in Clause - 42), the cost of quantity of cement not so used shall be recovered from the contractor as specified in schedule. Decision of the Engineer-in-Charge in regard to theoretical quantity of cement which should have been actually used as per the schedule and recovered at the rate specified, shall be final and binding on the contractor.

For non-scheduled items, the decision of the Superintending Engineer regarding theoretical quantity of the cement, which should have been actually used, shall be final and binding on the contractor.

- 9.2.7 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.

- 9.2.8 In case the contractor brings surplus quantity of cement the same shall be removed from the site after completion of work by the contractor at his own cost after approval of the Engineer-in-Charge.

Cement, which is not used within 90 days from its date of manufacture, shall be retested at approved laboratory. Until the results of such tests are found satisfactory, it shall not be used on the work.

- 9.2.9 Contractor will not use Govt premises/ Quarter as Cement/ Material store. If found using , Rs. 100/- per day shall be recovered for use of such accommodation.

9.3 STEEL REINFORCEMENT: -

- 9.3.1 The contractor shall procure Thermo Mechanical Treated (TMT) Steel Reinforcement bars of Fe 500D from Primary steel producers such as SAIL, Tata Steel Ltd, RINL, Jindal Steel & Power Ltd, and JSW Steel Ltd, or any other producer as approved by CPWD who are using iron ore as the basic raw material/ input and having crude steel capacity of 2.0 million tones per annum and above.

a) The grade of the steel shall be Fe 500 D as per BIS 1786-2008.

b) The TMT bars procured from primary producers shall conform to manufacture's specifications.

- 9.3.2 The contractor shall have to obtain and furnish test certificates to Engineer –in- Charge in respect of all the supplies brought by him to the site of work.
- 9.3.3 Samples shall also be taken and got tested by the Engineer-in-Charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications, as defined under para 10.3.1 (a) above, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week time or written orders from the Engineer-in Charge to do so: -
- 9.3.4 The steel reinforcement shall be brought in bulk supply of 10 tonnes or more or as decided by the Engineer-in-Charge alongwith manufacturer test certificate for each lot.
- 9.3.5 The steel reinforcement shall be stored by the contractor at site of work in such a way as to prevent their distortion and corrosion and nothing extra shall be paid on these accounts. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.
- 9.3.6 Unless OTHERWISE specified elsewhere in the contract document, the testing (nominal mass, tensile strength, bend test, rebend test etc.) shall be done as per frequency of samples not less than as given below

SIZE OF BAR	FOR CONSIGNMENT BELOW 100 TONNES	FOR CONSIGNMENT OVER 100 TONNES
Under 10 mm dia	One sample for each 25 tonnes or part thereof.	One sample for each 40 tonnes or part thereof
10 mm to 16 mm dia	One sample for each 35 tonnes or part thereof.	One sample for each 45 tonnes or part thereof
Over 16 mm dia	One sample for each 45 tonnes or part thereof	One sample for each 50 tonnes or part thereof

- 9.3.7 The contractor shall supply free of charge the steel required for testing including transportation to testing laboratories. The cost of tests shall be borne by the contractor.
- 9.3.8 The Actual issue and consumption of steel on work shall be regulated and proper account maintained as provided in clause 10 of the contract. The theoretical consumption of steel shall be worked out as per procedure prescribed in Clause 42 of the contract and shall be governed by conditions laid therein. In case the consumption is less than theoretical consumption including permissible variation, recovery at the rate so prescribed shall be made. In case of excess consumption no adjustment need to be made.
- 9.3.9 Steel brought to site and steel remaining unused shall not be removed from site without the written permission of the Engineer-in-Charge.
- 9.3.10 The contractor shall submit original vouchers from the manufacturer for the total quantity of steelsupplied under each consignment to be incorporated 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.
- 9.3.11 Reinforcement including authorized spacer bars and lappages shall be measured in length of different diameters as actually (not more than as specified in the drawings) used in the work nearest to a centimeter. Wastage and unauthorized overlaps shall not be measured.
- 9.3.12 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, T or Steel Bars and T.M.T. bars into Standard Weight.
- 9.3.13 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.

9.3.14 a) If the Derived Weight as in sub-para (10.3.14) above is less than the Standard Weight as in Sub-para (10.3.13) above then the Derived Actual Weight shall be taken for payment provided, it is within the tolerances specified in IS 1786-2008, otherwise whole lot will be rejected.

b) If the Derived Actual Weight is found more than the Standard Weight, the Standard Weight as per in sub-para (10.3.13) 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.

10.0 ENGAGING SPECIALISED AGENCIES FOR WORKS: -

10.1 The Contractor shall engage specialized agency unless otherwise approved by any Government Department having adequate technical capability and experience of having executed at least one work of similar items of 90% or more magnitude or two works of similar items of aggregate value minimum 90% or three works of similar items of minimum 30% magnitude individually for executing the following items of the work and / or any other items of work where specialized firm is required to be engaged as per contract conditions. For determining the required magnitude, the value of the work executed may be suitably enhanced with the prevailing approved cost index.

- i) Factory made Wooden Shutters of all types except Flush Doors.
- ii) Repair & Rehabilitation work.

10.2 The Specialized agency for the work shall be got approved from the Engineer-in-Charge well before actual commencement of the item of work. The contractor shall submit the list of Specialized agencies except for Internal Electrical Installation, proposed to be engaged by him along with necessary performance certificates, within 30 days from the date of issue of acceptance letter to substantiate technical capability and experience of the agency for prior approval of the Engineer-in-Charge.

10.3 For Internal Electrical Installation work as contained in the Electrical component work under Section VII, the Electrical Agency to be associated shall be of appropriate class of CPWD. Provisions mentioned under Sr. No. 11.1 above are not applicable for engagement of Electrical Agency. However contractor shall submit MOU to University Engineer, signed with eligible Electrical Contractor/Agency along with consent letter of Electrical Agency **at least 7 days before the last date of submission of Performance Guarantee**. It will be obligatory on the part of main contractor to sign the tender documents for all the components.

10.3.1 If the main contractor fails to associate agency/agencies for execution of minor components of work within prescribed time or furnishes incomplete details or furnishes details of ineligible agencies even after the tenderer is given due opportunity, the entire scope of such component of works shall be withdrawn from the tender and the same shall be got executed by the Engineer-in-Charge at the risk and cost of the main contractor.

10.3.2 Same milestones shall be applicable for all components of work.

10.4 For the specialized item of Polypropylene Pipes the contractor shall engage such vendors as approved by the manufacturer. Provisions mentioned under Sr. No. 11.1 above not applicable for Polypropylene Pipes.

11.0 Defect liability:

11.1 The contractor's liability during the defect liability period/guarantee period from the final date of completion as per clause 17 shall be limited to rectification of defects including replacement as follows which in the opinion of Engineer-in-Charge are not man made.

Sl. No.	Description	Defect Liability
(i)	Concrete	(a) Rectification of structural / superficial / non-structural cracks. (b) Rectification of dampness / seepage in roof slab / junctions & sunken portion. (c) Rectification of cracks in beam, shade, column.
(ii)	Brick work	(a) Rectification of cracks in panel wall / portion. (b) Cracks / settlement of dwarf walls. (c) Rectification of efflorescence.

Sl. No.	Description	Defect Liability
(iii)	Joinery	(a) Replacement of warped joinery. (b) Cracks in panels, rails / styles etc.
(iv)	Builders Hardware	(a) Repairs / Replacement of loosened / pre-mature failure of fittings. (b) Tightening / Replacement of sag in mosquito proofing.
(v)	Steel & Iron work	(a) Rectification / Replacement of defective part of rolling shutter. (b) Redoing of defective portion in fabrication / welding including painting. (c) Steel windows, grills, gates etc. – defects to be rectified.
(vi)	Roof treatment	(a) Rectification of leakage / seepage of roof slab including covering at junction till guarantee period.
(vii)	Plastering	(a) Rectification of structural / superficial cracks if any. (b) Rectification of protruding / peeling off plaster if any. (c) Rectification of efflorescence
(viii)	Flooring	(a) Rectification of sinking portion of plinth protection including saucer drain. (b) Settlement of foundation & floors.
(ix)	Plumbing / Sanitary fittings	(a) Making good of leakage through soil / waste pipe joints. (b) Replacement of looking mirror if found wavy. (c) Rectification of leakage of over head tanks. (d) Leakage / seepage of sunken floor, blockage of taps / pipes, non-functioning of cistern.
(x)	Finishes	(a) Making good of defective / dissimilar patches of painting to match with remaining surfaces.
(xi)	Internal Water Supply	(a) Repairs / Replacement of defective taps / fittings. (b) Repair to leakage of GI water pipe lines including joints. (c) Removal of blockage of GI pipe lines.
(xii)	Roads	(a) Repair of sinking portion of road & potholes, if any
(xiii)	Sewage	(a) Rectification of slope / system if found defective during use. (b) Rectification of major blockage in Sewer lines. (c) Cracks & settlement of sewage lines.
(xiv)	Drains	(a) Repair to Drains. (b) Settlement of Drains
(xv)	External Water Supply	(a) Repairs to installations & fittings.
(xvi)	General	(a) All manufacturing defects of structures / fixtures / fittings / equipments other than listed above.

PARTICULAR SPECIFICATIONS

1.0 **EARTH WORK:-**

1.1 **Anti Termite Treatment: -**

- 1.2.1 The work shall be executed by specialized agency to be approved by the Engineer in Charge.
- 1.2.2 The Chemical shall strictly conform to Specifications & shall be as per BIS covered by ISI marking. Chemical has to be of approved quality out of preferred make. 100% material has to be procured of approved make before start of work. The chemical shall be used only after due testing & if found conforming to the Specifications. Proper account has to be kept for day to day use of Chemical.
- 1.2.3 Ten years Guarantee bond in prescribed Performa attached under at **Page No.47** shall be submitted by the contractor which shall also be signed by both the specialized agency and the contractor to meet their liability / liabilities under the guarantee bond. However, the sole responsibility about efficiency of anti termite treatment shall rest with the building contractor. In addition to the security deposit 10% (**Ten per cent**) of the cost of anti termite work shall be retained as **Security Deposit and the additional security deposit amount so deducted would be released after ten years from the date of completion of the entire work under the agreement, if the performance of the treatment/work done is found satisfactory.** If any defect/shortcoming is noticed during the guarantee period, the contractor shall rectify it within 15 days of receipt of intimation of such defects/shortcomings. In the event of failure to attend to the complaint within the specified period, the same will be got done from another agency at the risk and cost of contractor.

2.0 **R.C.C. WORK:-**

2.1 Design Mix Concrete.

- 2.1.1 The RCC work shall be done with Design Mix Concrete. Wherever letter M has been indicated, the same shall imply for the Design Mix Concrete. The Design Mix Concrete will be designated based on the principles given in IS: 456, 10262 & SP 23. The Conditions & Specifications stated herein shall have precedence over all conditions & specifications stated in relevant I.S. Codes/ C.P.W.D. Specifications. The concrete mix shall be designed for the specified target mean compressive strength in order to ensure that work test result do not fall below the acceptance criteria specified for the concrete mix. The Contractor shall design mixes for each class of concrete indicating that the concrete ingredients and proportions will result in concrete mix meeting the requirements specified.
- (a) The contractor has to submit design mix without use of admixtures.
- (b) Admixture may be added in case of specific technical requirement so as to meet the workability / slump requirement or for any other reason but nothing extra is to be paid to contractor on account of adding admixtures.
- 2.1.2 The sources of coarse aggregate, fine aggregate, water, admixture & cement to be used in concrete work shall be identified by the contractor & he will satisfy himself regarding their conforming to the relevant specifications & their availability before getting the same approved from the Engineer-In-Charge.

- (a) **Coarse Aggregate:-** As per CPWD Specifications
- (b) **Fine Aggregate:-** As per CPWD Specifications
- (c) **Water:-** It shall conform to requirements laid down in IS:456-2000 / Para 3.1.1 of CPWD Specifications. If on testing, water from the source is not found fit for construction, the necessary arrangement for treatment of water shall have to be made by the contractor at the site and nothing extra shall be payable for the same.
- (d) **Cement:-** OPC of grade 43 shall conform to IS: 8112 or IS: 12330 and / or Portland Pozzolona Cement (Fly ash based), required in the work from reputed manufacturers of cement as per the approved make in 50 kg. bags bearing manufacturer's name and ISI marking, along with manufacturers test certificate for each lot. If Portland Pozzolona Cement is used for RCC work, the same shall be subject to fulfillment of conditions of circular No. CDO/SE(RR)/Fly ash (MAN) 02 dated 09.04.09 and shall conform to IS: 1489-Part-I. However, if the contractor uses higher grade of cement nothing extra shall be paid.

- (e) **Admixture/ Plasticizer:-** The admixture shall conform to IS: 9103. Whenever required, the admixture of approved quality & approved make only shall be used to attain the required workability. Nothing extra on account of use of Admixture / Plasticizer shall be payable.

2.1.3 Water Cement Ratio and Slump:-

- 2.1.3.1 In proportioning a particular mix, the manufacturer/ producer/ contractor shall give due consideration to the moisture content in the aggregates, and the mix shall be so designed as to restrict the maximum free water cement ratio to less than 0.5.
- 2.1.3.2 Due consideration shall be given to the workability of the concrete thus produced. Slump shall be controlled on the basis of placement in different situations. For normal methods of placing concrete, maximum slump shall be restricted to 100mm when measured in accordance with IS: 1199.

2.1.4 Characteristic Compressive Strength compliance Requirement

Specified Grade	Mean of the Group of 4 Non-Overlapping Consecutive Test Results in N/mm ²	Individual Test Results in N/mm ²
(1)	(2)	(3)
M20 or above	$\geq f_{ck} + 0.825 \times \text{established standard deviation (rounded off to nearest 0.5 N/mm}^2)$ Or $f_{ck} + 4 \text{ N/mm}^2$, whichever is greater Where f_{ck} is characteristic compressive strength of CC Cube at 28 days	$f_{ck} - 4 \text{ N/mm}^2$
<p>Note(i): In the absence of established value of standard deviation, the values given in Table may be assumed, and attempt should be made to obtain results of 30 samples as early as possible to establish the value of standard deviation.</p> <p>(ii) : The acceptance criteria for compressive strength as mentioned in IS 456:2000 as amended upto date shall prevail over the above criteria in case of any difference.</p>		

- 2.1.5 The Contractor shall engage one of the following approved laboratories / test house for designing the concrete mix in accordance with relevant IS Code and to conduct laboratory tests to ensure the target strength & workability criteria for a given grade of concrete: -

- i) National Institute of Technical Teacher Training & Research (NITTTR), Sector 26, Chandigarh.
- ii) Punjab Engineering College, Chandigarh.

The various ingredients for mix design / laboratory tests shall be sent to the lab / test houses through the Engineer-in-charge and the samples of such aggregates sent shall be preserved at site by the department.

In the event if all the **above** laboratories are unable to carry out the requisite design / testing, the contractor may have it done from any other laboratory with prior approval of the **Director PEC**.

- 2.1.6 The contractor shall submit the report on design mix from any of above approved laboratories for approval of Engineer in Charge within 30 days from the date of issue of letter of acceptance of the tender. No concreting shall be done until the design mix is approved. In case of White Portland Cement and the likely use of admixtures in concrete with ordinary Portland/White Portland Cement, the contractor shall design and test the concrete mix by using trial mixes with white cement and / or admixtures also, for which nothing extra shall be payable.
- 2.1.7 In case of change of source or characteristic properties of the ingredients used in the concrete mix during the work, the contractor as per the directions of the Engineer-in-charge shall submit a revised laboratory mix design report conducted at laboratory established at site.
- 2.1.8 All cost of mix designing and testing, connected therewith, including charges payable to the laboratory shall be borne by the Contractor including redesigning of the concrete mix whenever required & as directed by Engineer-In-Charge.
- 2.1.9 The mix design for a specified grade of concrete shall be done for a target mean compressive strength $T_{ck} = F_{ck} + 1.65s$

Where F_{ck} = Characteristic compressive strength at 28 days.

s = Standard deviation which depends on degree of quality control.

The standard deviation for different grades of concrete shall be as follows: -

GRADE OF CONCRETE	STANDARD DEVIATION
M-20	4.0
M-25	4.0
M-30	5.0
M-35	5.0
M-40	5.0

However, actual standard deviation based on test strength of samples for each grade of concrete shall be calculated separately as per procedure laid down in clause 9.2.4 of code of practice IS:456:2000.

2.1.10 TRIAL BATCHES

- (a) The designed mix proportions shall be checked for target mean compressive strength by means of trial batches.
- (b) Minimum three sets of separate preliminary tests shall be carried out for each trial batch of concrete mix. Each test shall comprise of six specimens and only one test-set of six specimens shall be made on any particular day.
- (c) The quantities of materials for each trial mix shall be sufficient for at least six specimens (cubes) and the concrete required for carrying out workability tests.
- (d) The workability of trial mix No.1 shall be measured and mix shall be carefully observed for freedom from segregation, bleeding and its finishing characteristics. The water content, if required, shall be adjusted corresponding to the required changes in the workability.
- (e) With the modified Water Content, the mix proportions shall be recalculated by keeping with water cement ratio unchanged. The mix proportion, as modified, shall form the Trial Mix No.2 and tested for the specified strength and workability.
- (f) In addition, trial mix No.3 and 4 shall be designed by keeping water contents same as that determined for trial mix 2 but varying the water cement ratio by ± 10 percent of the specified value and tested for their design characteristics.
- (g) Out of the six specimen of each set, three shall be tested at seven days and remaining three at 28 days. The preliminary tests at seven days are intended only to indicate the strength to be attained at 28 days, while the design mix shall be approved only on the basis of test strength at 28 days.

2.1.11 APPROVAL OF DESIGN MIX

The design mix shall be considered satisfactory and approved if at least three preliminary test-sets individually satisfy the following strength and workability criteria:

- (a) The average strength of each test-set is not less than the specified target mean compressive strength (T_{ck}).
- (b) The strength of any specimen cube is not less than $0.85 T_{ck}$.
- (c) The concrete mix is of required degree of workability and acceptable concrete finish.

2.2 BATCHING & MIXING:-

- (a) All design mix concrete shall be done using fully automatic batching plant conforming to IS: 4925 of minimum 15 cum per hour capacity. The automatic batching plant shall be charged by devices when actuated by a single starter switch, will automatically start the weighing operation of each material (i.e. stone aggregate, sand, cement, water, admixture etc.) and stop automatically when designated weight of each material has been reached and also it should have rated capacity (in terms of concrete in a single batch). It shall have control panel for operation of the batching plant complete with printing facility.
- (b) The contractor shall be free to use Ready Mix Concrete (RMC) in place of Batch mix concrete at his own cost. The contractor shall ensure that transit mixtures shall transport the concrete to site. All the precautions shall be taken during the transportation and handling of concrete to achieve

the desired strength, durability, etc. as envisaged in the Mix Design. Contractor has to get the approval from Engineer-In-Charge regarding source of RMC by giving the details of such plants indicating name of owner / company, its location, technical establishment, past experience and text of Memorandum of Understanding (proposed to be entered between purchaser and supplier). The Engineer-in-Charge, after satisfying himself about quality / capability of the company shall give approval in writing (subject to drawing of MOU). The MOU shall be drawn with RMC plant owner / company and submitted to Engineer-in-Charge within a week of such approval. The contractor will not be allowed to purchase RMC without completion of above formalities for use in the project. Notwithstanding the approval granted by Engineer-in-Charge in aforesaid manner, the contractor shall be fully responsible for quality of concrete including input control, production, transportation and placement etc. The Engineer-in-Charge will reserve the right to deploy his supervisor at plant site to inspect at any such stage and reject the material / concrete etc if he is not satisfied about quality of material / product. General information to be supplied by the contractor to supplier of RMC.

- (c) RMC shall conform to CPWD specifications (Vol.I) 2009. However contractor may use design mix concrete for smaller RCC works like lintels, filling starters of columns, coping etc. with the help of batch mix plant of approved capacity at site.
- (d) All measuring equipment shall be maintained in a clean and serviceable condition and their accuracy shall be checked at least once a month.
- (e) Only single sized good quality stone aggregate shall be brought to site of work from the approved source. The grading of the stone aggregate shall be controlled by blending the aggregate of different sizes in the required proportions at site of work

The aggregate of different sizes shall be stock-piled separately, preferably a day before use.

The grading of coarse and fine aggregates shall be checked as frequently as possible and as directed by the Engineer-In-Charge to ensure that the specified grading and quality of aggregate is maintained.

- (f) It is important to maintain the Water Cement Ratio constant at its specified or approved value by making adjustment for the moisture contents of both fine and coarse aggregates.

The moisture contents in the aggregate shall be determined as frequently as possible in keeping with the weather conditions and as per the provisions of IS: 2386 (Part-III).

GENERAL INFORMATION FOR READY MIX CONCRETE (RMC) TO BE GIVEN TO THE SUPPLIER BY THE CONTRACTOR

(A) To be used under Moderate conditions :

1	Mix code	M-25
2	Grade (N/mm ²) (Characteristic strength)	25
3	Minimum Cement content (Kg/m ³)	330
4	Maximum Free water cement ratio	0.50
5	Nominal Maximum aggregate size	20mm
6	Cement Type and Grade (if preferred)	OPC 43 Grade/PPC
7	Target workability at site (slump)(mm)	
	a) Without pumping	25 to 75mm
	b) With pumping	75 to 100mm
8	Exposure condition	Moderate
9	Mix application	RCC Work
10	Method of placing	pumping
11	Any other requirements(early strength, workability, retention, permeability testing, chloride content restriction, maximum cement content etc)	Maximum cement content 500 Kg/m ³

2.3 OTHER OPERATIONS: -

All other operations in concreting work like mixing, slump, laying, placing of concrete, compaction, curing etc. not mentioned in this particular specifications for Design Mix of Concrete shall be as per CPWD Specifications.

2.4 **SAMPLING:-**

- (a) Samples from fresh concrete shall be taken as per IS 1199 and the test cubes shall be made, cured and tested in accordance with IS: 516.
- (b) Each test sample shall comprise of six test cubes (specimen), three of which shall be tested at 7 days and remaining for tests at 28 days.
- (c) **FREQUENCY OF SAMPLING: -**
 - (i) A random sampling procedure shall be adopted to ensure that the sampling is spread over the entire period of concreting and cover all mixing units. The concrete work shall be notionally divided into lots as under for the purpose of sampling conditions.
 - Footings, rafts etc.
 - Columns and walls at all levels.
 - Beams at all levels.
 - Slabs at all levels.
 - (ii) At least one test sample shall be taken for each lot of concrete work.
 - (iii) Each grade of concrete shall form different lot for testing.
 - (iv) The minimum frequency of sampling of concrete of each grade shall be in accordance with CPWD specification 2009, Vol I with upto date correction slips:-
 - (v) The concrete work shall be assessed on day to day basis & samples shall be taken as specified.
 - (vi) Work strength test shall be conducted in accordance with IS: 516 on random sampling.

2.4.1 **TEST RESULTS OF SAMPLES: -**

The test results of the sample shall be the average of the strength of three specimens. The individual variation shall not be more than $\pm 15\%$ percent of the average. If variation is more, the test results shall be treated as invalid.

2.4.2 **STANDARD OF ACCEPTANCE: -**

Compressive strength :

- i) The concrete shall be deemed to comply with the strength requirement when both the following conditions are met.
 - (a) The mean strength determined from any group of four consecutive test results complies with the appropriate limits in Col.2 of table given under para 2.1.4 above.
 - (b) Any individual test result complies with the appropriate limits in col.3 of table given under para 2.1.4 above.
- ii) **Quality of concrete represented by strength test result**

The quantity of concrete represented by a group of four consecutive test results shall include the batches for which the first and last samples were taken together with all intervening batches. Where the mean rate of sampling is not specified the maximum quantity of concrete that four consecutive test results represents shall be limited to 60m³.
- iii) Concrete of each grade shall be assessed separately.
- iv) Concrete is liable to be rejected, if it is porous or honeycombed or its placing has been interrupted without providing a proper construction joint or the reinforcement has been displaced beyond the tolerances specified, or construction tolerances have not been met. However, the hardened concrete may be accepted after carrying out suitable remedial measures to the satisfaction of Engineer-in-Charge.

2.5 **MEASUREMENT –**

- (i) As per CPWD Specifications.
- (ii) In respect of all projected slabs at all levels including cantilever, canopy, the payment for the RCC work shall be made under the item RCC slabs. The payment for shuttering at the edges shall be made under item of centering and shuttering for RCC slabs. Nothing extra shall be paid for the side shuttering at the edge of these projected balconies / projected verandah slabs.

2.6 **TOLERANCES - As per CPWD Specifications.**

2.7 RATES: -

- (i) The rate includes the cost of materials, labour and T&P, including mixing, placing, transportation involved in all the operations described above except for the cost of centring, shuttering & reinforcement which will be paid for separately.
- (ii) In case of rejection of concrete on account of unacceptable compressive strength, governed by para "Standard of Acceptance" as above, the work for which samples have failed shall be redone at the cost of contractor. However, the Engineer-in-charge may order for additional tests (like cutting cores, ultrasonic pulse velocity test, load test on structure or part of structure, etc) to be carried out at the cost of contractor to ascertain if the portion of structure wherein concrete represented by the sample has been used, can be retained on the basis of results of individual or combination of these tests. The Contractor shall take remedial measures necessary to retain the structure as approved by the Engineer-in-charge without any extra cost. However, for payment, the basis of rate payable to contractor shall be governed by the 28 days cube test results and reduced rates shall be regulated in accordance with CPWD Specifications.

2.8 RCC WORK (ORDINARY)

2.8.1 The work shall be done in accordance with CPWD Specifications.

2.8.2 Water Cement ratio for Ordinary RCC work shall not be more than 0.5. Contractor shall use concrete mixture of proper design having arrangement for measuring water for mixing of concrete.

2.9 FORM WORK

2.9.1 The work shall be done in general as per CPWD Specifications.

2.9.2 Only M.S. centring / shuttering and scaffolding material unless & otherwise specified shall be used for all R.C.C. work to give an even finish of concrete surface. However, marine-ply shuttering in exceptional cases as per site requirement may be used on specific request from contractor to be approved by the **Engineer-in-Charge**.

2.9.3 Nothing extra shall be paid for the centring and shuttering, circular in shape whenever the formwork is having a mean radius exceeding 6m in plan.

2.9.4 Nothing extra shall be paid for grid beams and the corresponding slabs having clear span more than 1.20 metres.

2.9.5 In order to keep the floor finish as per architectural drawings and to provide required thickness of the flooring as per specifications, the level of top surface of R.C.C. shall be accordingly adjusted at the time of its centring, shuttering and casting for which nothing extra shall be paid to the Contractor.

As per general engineering practice, level of floors in toilet / bath, balconies, shall be kept 12 to 20mm or as required, lower than general floors shuttering should be adjusted accordingly. Nothing extra is payable on this account.

2.9.6 Steel shuttering as approved by the Engineer-in-Charge shall be used by the contractor. Minimum size of shuttering plates shall be 600mm x 900mm except for the case when closing pieces are required to complete the shuttering panels.

Dented, broken, cracked, twisted or rusted shuttering plates shall not be allowed to be used on the work.

The shuttering plates shall be cleaned properly with electrically driven sanders to remove any cement slurry or cement mortar or rust. Proper shuttering oil or de-bonding compound shall be applied on the surface of the shuttering plates in the requisite quantity before assembly of steel reinforcement.

2.10 REINFORCEMENT:-

2.10.1 The reinforcement shall be done as per CPWD Specifications.

2.10.2 The rate of item of reinforcement of RCC work includes all operations including straightening, cutting, bending, welding, binding with annealed steel or welding and placing in position at all the floors with all leads and lift complete as per CPWD Specifications.

2.10.3 The contractor shall provide approved type of support for maintaining the bars in position and ensuring required spacing and correct cover of concrete to reinforcement as called for in the drawings, spacer blocks of required shape and size. Chairs and spacer bars shall be used in order to ensure accurate positioning of reinforcement. **Spacer blocks shall be cast well in advance with approved proprietary pre-packed free flowing mortars (Conbextra as manufactured by M/S Fosroc Chemicals India Ltd. or approved equivalent)** of high early strength and same colour as surrounding concrete. However

Cover Guard Bars shall also be used to maintain proper cover of RCC columns in addition to spacer blocks as mentioned above. Pre-cast cement mortar/concrete blocks/blocks of polymer shall not be used as spacer blocks unless specially approved by the Engineer-in-charge, rate of RCC items is inclusive of cost of such cover blocks & Cover Guard Bars.

2.11 PRE-CAST RCC WORK

- 2.11.1 The work shall be done in accordance with CPWD Specifications.
- 2.11.2 Pre-cast reinforced concrete units shall be of grade or mix as specified. Provision shall be made in the mould to accommodate fixing devices such as hooks etc. and forming of notches and holes. Each unit shall be cast in one operation. A sample of the unit shall be got approved from Engineer-in-charge before taking up the work.
- 2.11.3 Pre-cast units shall be clearly marked to indicate the top of member and its location.
- 2.11.4 Pre-cast units shall be stored, transported and placed in position in such a manner that these are not damaged.
- 2.11.5 The compaction of the concrete shall be done by vibrating, table or external vibrator, as approved by Engineer-in-charge. The rate quoted for the item shall include the element for framework and mechanical vibration.
- 2.11.6 Rate for item includes cost of all materials, labour, and all operations involved. Cost of M.S. frames, lugs including their welding, lifting hooks is also included.
- 2.11.7 In the item of providing and fixing precast reinforced cement concrete in shelves the cost of cutting chases and making good the same shall be inclusive in the item and nothing extra shall be paid on this account.

3.0 BRICK WORK:-

- 3.1 The brickwork shall be carried out with good quality well common burnt clay Machine maulded / F-P-S (Non modular) bricks of class designation 7.5 as per CPWD Specifications. Exposed brick work for ground level to plinth level shall be executed with selected bricks of class designation 7.5
- 3.2 The rate shall also include for leaving chases / notches for dowels / cramps for all kinds of cladding to come over brick work.
- 3.3 Brick work provided around shaft or lift walls or around slab cutouts shall be measured in the brick for corresponding floor level. Nothing extra shall be paid on this account.
- 3.4 M.S. bars provided at every third course of half brick masonry shall be in single piece. If required, welding joint can be used without overlaps. Nothing extra shall be paid for welding and overlaps.

4.0 STONE / MARBLE WORK :-

- 4.1 General: - The execution of stones work shall be in general as per CPWD Specifications.

4.2 SAMPLES FOR STONE WORK:-

Samples of each item of stone work either individually or in combination shall be prepared for approval of Engineer-in-charge before commencement of work.

5.0 WOOD WORK:-

- 5.1 The wood work in general shall be carried out as per CPWD Specifications.
- 5.2 The sample of timber to be used shall be deposited by the contractor with Engineer-in-charge before commencement of work.
- 5.3 Glazing for toilets shall be of translucent type.
- 5.4 The shape and size of beading shall be as per drawings. The joints of beading shall be mitred.
- 5.5 Timber shall be of specified species, good quality and well seasoned. It shall have uniform colour, reasonably straight grains and shall be free from knots, cracks, shakes and sapwood. It shall be close grained. The contractor shall deposit the samples of species of timber to be used with the Engineer-in-Charge for testing before commencement of the work.
- 5.6 Wood work shall not be painted, oiled or otherwise treated before it has been approved by the Engineer-in-charge. All portion of timber including architrave abutting against masonry, concrete, stone or embedded in ground shall be painted with approved wood preservative or with boiling coaltar.

- 5.7 The contractor(s) shall produce cash voucher and certificates from approved Kiln Seasoning Plants about the timber used on the work having been kiln seasoned and chemically treated by them, falling which it would not be so accepted as kiln seasoned and/or chemically treated.
- 5.8 Transparent sheet glass conforming to IS: 2835 – 1977 shall be used. Thickness being governed as under unless otherwise specified in the item in wood work/steel work:

Area of Glazing	Thickness
(a) For glazing area up to 0.50 sqm	4.0 mm
(b) For glazing area more than 0.50 sqm	5.5 mm

- 5.9 Factory made panelled / wire gauge door shutters
- 5.10 The work shall be executed through specialized agencies to be approved by the Engineer in Charge.
- 5.11 The shutters should be fabricated in factories & fabrication should conform to CPWD Specifications Para 9.6.6 & IS 1003 Part-I.
- 5.12 The contractor shall propose well in advance to Engineer-in-Charge, the names and address of the factory where from the contractor intends to get the shutters manufactured along with the credential of the firm. The contractor shall place the order for manufacturing of shutters only after obtaining approval of the Engineer in Charge whose decision in this case shall be final & binding. In case the firm is not found suitable he shall propose another factory. The factory may also be inspected by a group of officers before granting approval; shutters shall however he accepted only if these meet the specified test.
- 5.13 Contractor will arrange stage wise inspection of the shutters at factory by the Engineer-in-Charge or his authorized representative. The contractor will have no claim if the shutters brought at site in part or full lot are rejected by the Engineer-in-Charge due to bad workmanship / quality. Such defective shutters will not be measured and paid. The contractor shall remove the same from the site of work with in 7 days after the written instruction in this regard are issued by the Engineer-in-Charge.
- 5.14 The shutters should be brought at site without primer / painting.

6.0 **STEEL WORK:-**

- 6.1 The work shall be carried out as per CPWD Specifications.
- 6.2 **Pressed Steel Frame / T Iron Frames:** - The work shall be done as per CPWD Specifications. The frames shall be fabricated in approved workshops. The angle and flat iron frames for cupboard shall also be fabricated from the above approved workshops.
- 6.3 **Steel windows / ventilators:** The work shall be done strictly as per CPWD Specifications. Flash butt-welded steel windows / ventilators only shall be provided and shall be procured from the approved manufacturers. The corners should be welded to form a solid fused welded joint conforming to the requirement given below.
- Weld shall be made all along the place of meeting the member.
 - Weld should be properly grounded.
 - Complete cross section of the corner shall form a solid joint with no cavities, free from cracks, under cutting, overlaps, gross porosity and entrapped slag.\

All sub dividing and glazing bars shall be tennoned & riveted into the frames i.e. all centre mullion section F4B and glazing section T2, T6 shall not be directly welded to the frames. For this a slot has to be cut in the frames, the F4B / T2 / T6 section inserted into it & head be hydraulically tennoned & riveted by Tennon Rivetting Machine.

The thickness of projecting type hinges shall not be less than 3.15 mm. For fixing of hinges to outer frame, slot shall be cut, hinges inserted & welded at the back. For non projected type hinges if allowed, the wall thickness shall not be less than 3 mm & total width not less than 40 mm. For fixing, the slot shall be cut in the fixed frames, hinge flap inserted & welded from the back.

The fixing lug shall be as per IS 1038 with adjustable slot & fixed to window frames by screws & nuts. The fixing of unit shall be done as per IS 1081.

- 6.4 **M.S. Sheet Door** – M.S Sheet shall be in one piece i.e. no joint in M.S. Sheet shall be permitted.

7.0 FLOORING:-

- 7.1 All work in general shall be carried out as per CPWD Specifications.
- 7.2 Whenever flooring is to be done in patterns of tiles and stones, the contractor shall get samples of each pattern laid and approved by the Engineer-in-charge before final laying of such flooring. Nothing extra shall be payable on this account.
- 7.3 Different stones / tiles used in pattern flooring shall be measured separately as defined in the nomenclature of the item and nothing extra for laying pattern flooring shall be paid over and above the quoted rate. No additional wastage, if any, shall be accounted for any extra payment.
- 7.4 Samples of flooring stones (Kota/ Marble/ Granite etc.) shall be deposited well in advance with the Engineer-in-Charge for approval. Approved samples should be kept at site with the Engineer-in-Charge and the same shall not be removed except with the written permission of Engineer-in-Charge. No payment whatsoever shall be made for these samples.
- 7.5 The Marble/ Kota/ Granite or any other stone shall be fully supported by the details establishing the quarry and its location.
- 7.6 Full width Marble/ Kota/ Granite stone over kitchen platform shall be provided which shall not be less than 900mm long except to adjust for closing pieces. The marble / stone flooring in treads and risers of staircase shall not be less than 1500mm long except to adjust the closing pieces. Nothing extra shall be paid on these accounts
- 7.7 **PVC & Wooden Flooring**
The PVC & wooden flooring shall be procured from the approved manufacturer and work shall be carried out as per approved drawings and direction of Engineer-in-charge.
- 7.8 **Ceramic/ Vitrified Tiles Flooring**
The tiles shall be procured from the approved manufacture of the approved shade & colour.

The tile shall be conforming to IS-13755, IS-13753 and IS-15622 for floor and wall tiles respectively.

Tiles for dado shall be 200mm x 300mm (minimum size) GROUP-III as approved.

Tiles for flooring shall be 300mm x 300mm (minimum size) GROUP-V Tiles as approved.

Test shall be conducted to satisfy the quality of material as per CPWD Specifications
- 7.9 The full body vitrified tiles of specified sizes shall be used & samples of tiles shall be got approved from the Engineer-in-Charge. All tiles shall be rectified. The mandatory tests for vitrified tiles shall be got done as per CPWD Specifications (Vol.1)/relevant BIS Code.
- 7.10 Glass Mosaic Tile Flooring shall be with approved random colour mix design tiles and work shall be carried out as per direction of Engineer-in-charge.
- 7.11 The rate of items of flooring is inclusive of providing sunken flooring in bathrooms, kitchen etc. and nothing extra on this account is admissible. The proper gradient shall be given to flooring for toilets, verandah, kitchen, courtyard, etc. as per the directions of Engineer-in-charge.

8.0 WATER PROOFING TREATMENT WORK :-

- 8.1 The work shall be got executed from the specialized agency as approved by the Engineer in Charge.
- 8.2 Total quantity of the water proofing compound required shall be arranged only after obtaining the prior approval of the make by Engineer-in-charge in writing. Materials shall be kept under double lock and key and proper account of the water proofing compound used in the work shall be maintained. It shall be ensured that the consumption of the compound is as per specified requirements.
- 8.3 The finished surface after water proofing treatment shall have adequate smooth slope as per the direction of the Engineer-in-charge.
- 8.4 Before commencement of treatment on any surface, it shall be ensured that the outlet drain pipes / spouts have been fixed and the spout openings have been chased and rounded off properly for easy flow of water.

8.5 **GUARANTEE BOND:-**

Ten years Guarantee bond in prescribed proforma at **Page No.43** shall be submitted by the contractor which shall also be signed by both the specialized agency and the contractor to meet their liability / liabilities under the guarantee bond. However, the sole responsibility about efficiency of water proofing treatment shall rest with the building contractor. In addition to the security deposit 10% (**Ten per cent**) of the cost of water-proofing work shall be retained as Security Deposit and the additional security deposit amount so deducted would be released after ten years from the date of completion of the entire work under the agreement, if the performance of the treatment is found satisfactory. If any defect is noticed during the guarantee period, the contractor shall rectify it within 15 days of receipt of intimation of defects in the work. If the defects pointed out are not attended to within the specified period, the same will be got done from another agency at the risk and cost of contractor.

9.0. **FINISHING:-**

9.1 The work shall be done in accordance with CPWD Specifications.

9.2 All painting material of approved brand and manufacturer shall be brought to the site of work in the original sealed containers. The material brought to the site of work shall be sufficient for at least 30 days of work. The material shall be kept under the joint custody of contractor and representative of the Engineer-in-charge. The empty containers shall not be removed from the site till the completion of the work without permission of the Engineer-in-charge.

10.0 **SANITARY INSTALLATIONS /WATER SUPPLY / DRAINAGE:-**

10.1 The contractor shall submit schematic drawing of water supply and sanitary installation showing details of layout, including internal water supply and drainage details, showing the detail of water supply lines including fittings diameter wise and fixtures connecting to soil waste through traps and connection of W.C. to main shaft pipe for drainage including its ventilation system for approval of Engineer-in-Charge.

10.2 For the work of water supply and sanitary installations, the contractor shall engage the approved licensed plumbers and submit the name of proposed plumbing agencies with their credentials for approval of the Engineer-in-Charge.

10.3 The work in general shall be carried out as per CPWD Specifications.

10.4 The tendered rates shall include the cost of cutting holes in walls, floors, RCC slabs etc. wherever required and making good the same for which nothing extra shall be paid.

10.5 The Centrifugally spun cast iron pipe IS: 3989-1984 wherever necessary shall be fixed to RCC columns, beams etc. with rawl plugs of approved quality and nothing extra shall be paid for on this account.

10.6 The pig lead to be used in the jointing should be as per CPWD specifications.

10.6(a) The Centrifugally spun cast iron pipe IS: 3989-1984 wherever necessary shall be fixed to RCC columns, beams etc. with rawl plugs of approved quality and nothing extra shall be paid for on this account.

10.6.(b) Nothing extra for providing and fixing CP brass caps/ extension pieces wherever required for CP brass fittings shall be paid beyond the rates payable for corresponding CP brass fittings.

10.7 The pig lead to be used in jointing should be as per C.P.W.D. Specifications.

10.8 Nothing extra for providing & fixing CP Brass caps /extension pieces wherever required for CP Brass fittings shall be paid beyond the rates payable for corresponding CP Brass fittings

10.9 The entire responsibility for the quality of work will however rest with the building contractor only and he shall submit a Guarantee Bond as per Proforma at **Page No.45**. In addition to security deposit 10% (ten percent) of the cost of these items would be retained as security deposit and the additional security deposit amount so deducted would be released after two years from the date of completion of the entire work under the agreement, if the performance of the items is found satisfactory. If any defect is noticed during the guarantee period, the contractor should rectify it within seven days and if not attended to the same will be got done from another agency at the risk and cost of contractor. However, this security deposit can be released in full if bank guarantee of equivalent amount is produced and deposited with the department.

11.0 **Aluminium doors, windows, ventilators etc. glazing specifications**

11.1 **Extent and Intent:** - The work shall be carried out through an approved Special Agency, who shall furnish all material, labour, accessories, equipment, tool and plants and incidentals required for providing

and installing anodized aluminium doors, windows, claddings, louvers and other items as called for on the drawings. The drawings and specifications cover the major requirements only. The supplying of additional fastenings, accessories, fixtures and other items not mentioned specifically herein, but which are necessary to make a complete installation shall be a part of this contract.

- 11.2 **General:** - Aluminium doors, windows etc. shall be of sizes, section details as shown on the Architectural drawings. The details shown on the drawings indicate generally the sizes of the component parts and general standards. These may be varied slightly to suit the standard adopted by the manufacturers. Before proceeding with any manufacturing, the contractor shall prepare and submit complete manufacturing and installation drawings for approval of the Engineer-in-Charge and no work shall be performed until the approval of these drawings is obtained.
- 11.3 **Shop Drawings:** - The contractor shall submit the shop drawings of doors, windows, louvers, cladding and other aluminium work, based on the architectural drawings to the Engineer-in-Charge for his approval. The shop drawing shall show full size sections of doors, windows etc. thickness of metal (i.e. wall thickness) details of construction, sub frame/rough ground profile, anchoring details hardware as well as connection of windows, doors and other metal work to adjacent work. Samples of all joints and methods of fastening and joining shall be submitted to the Engineer-in-Charge for approval well in advance of commencing the work.
- 11.4. **Samples:** - Samples of doors, windows louvers etc. shall be fabricated, assembled and submitted to Engineer-in-Charge for his approval. They shall be of sizes, types etc. as decided by Engineer-in-Charge. All samples shall be provided at the cost of the contractor.
- 11.5. **Sections:** - Aluminium doors and windows shall be fabricated from extruded sections of profiles as detailed on drawings. The sections shall be extruded by the manufacturers approved by the Engineer-in-Charge. The aluminum extruded sections shall conform to BIS designation IIE/IIV 9 WP alloy, with chemical composition technical properties, as per IS: 733 and IS: 1285. The permissible tolerance of the extruded sections shall be such as not to impair the proper and smooth function/ operations and appearance of doors and windows.
- 11.6 **Fabrication:** - Doors, windows etc. shall be fabricated to sizes at factory and shall be of section, sizes, combinations and details as shown on the drawings. All doors, windows etc. shall have mechanical joints. The joints shall be designed to withstand a wind load of 150 Kg. Per Sqm. The design shall also incur that the maximum deflection of any member shall not exceed 1/175 of the span of the member. All members shall be accurately machined and fitted to form hairline joints prior to assembly. The joints accessories such as cleats, brackets etc. shall be of such material as not to cause any bimetallic action. The design of the joints and accessories shall be such that the accessories are fully concealed. The fabrication of doors, windows, etc. shall be done in suitable sections to facilitate easy transportation, handling and installation. Adequate provision shall be made in the door and window members for anchoring to support and fixing of hardware and other fixture as approved by the Architect.
- 11.7 **Anodizing:** - All aluminum sections shall be anodized as per IS: 7088 and to required colour as specified in the item as per IS: 1868 grading as specified in item schedule after cutting the member to requisite sizes before the final assembly. Anodizing confirming to specified grade with minimum average thickness of 15 microns when measured as per IS: 612. The anodic coating shall be properly sealed by steams or in boiling water are cold sealing process as per IS:1868/IS: 6057. Polythene tape protection shall be applied on the anodised section before they are brought to site. All care shall be taken to ensure surface protection during transportation, storage at site and installation. The tape protection shall be removed on installation. The sample will be tested in the approved laboratory and cost of samples; cost of testing etc. shall be borne by the contractor.
- 11.8 **Protection of finish:** - All aluminum members shall be wrapped with approved self-adhesive non-staining. PVC tapes.
- 11.9 **Handling and Stacking:** -
- 11.9.1 Fabricated materials shall be carried in an approved manner to protect the material against any damage during transportation. The loading and unloading shall be carried out with utmost care. On receipt of material at site, it shall be carefully examined to detect any damaged pieces. Arrangements shall be made for expeditious replacement of damaged pieces/ parts. Materials found to be acceptable on inspections shall be repacked in crates and stored safely.

11.9.2 In the case of composite windows and doors, the different units are to be assembled first. The assembled composite units should be checked for line, level and plumb before final fixing is done. Units may be serial numbered and identified as out how to be assembled in their final locations if situation so warrants.

11.9.3 The contractor shall be responsible for assembling composite, bedding and filling the groove with polysulphide sealant inside and outside, at transoms and mullions placing the doors, windows etc. in their respective openings. After the doors/ windows have been fixed in their correct assigned position, the open hollow sections abutting masonry concrete shall be fitted with approved polysulphide sealant densely packed and finished neat.

11.9.4 The contractor shall be responsible for doors, windows, etc. being set straight, plumb, level and for their satisfactory operation after fixing is complete.

11.10 **Installation:** -

11.10.1 Just prior to installation the doors, windows, etc. shall be uncreated and stacked on edge on level bearers and supported evenly. The frame shall be fixed into position true to line and level using adequate number of expansion machine bolts, anchor fasteners, of approved size and manufacture and in an approved manner. The holes in concrete/masonry members for housing anchor bolts shall be drilled with an electric drill.

11.10.2 The door/ windows assembled as shown on drawings shall be placed in correct final position on the opening and marks made on concrete members at jambs, sills and heads against the holes provided in frames for anchoring. The frame shall then be removed from the opening and laid aside. Neat holes with parallel sides of appropriate size shall then be drilled in the concrete members with an electric drill at the marking to house the expansion bolts. The expansion bolts shall then be inserted in the holes, struck with a light hammer till the nut is forced into the anchor shell. The frame shall then be placed in final position in the opening and anchored to the support through cadmium plated machine screws of required size and anchored to the support through cadmium plated machine screws of required size threaded to expansion bolts. The frame shall be set in the opening by using wooden wedges at supports and be plumbed in position. The wedges shall invariably be placed at the meeting at points of glazing bars and frame.

11.11 **PVC/ Neoprene gaskets:** - The contractor shall provide and install PVC/ Neoprene gaskets of approved size and profile at all locations as shown and as called for to render the doors, windows etc. absolutely air tight and weather tight. The contractor shall produce samples of the gaskets for approval and shall procure the same after approval only.

11.12 **Fittings:** - Hinges, stays, handles, tower bolts, locks and other fittings shall be of quality and manufacturer as approved by the Engineer-in-Charge.

11.13

11.14 **Manufacturer's Attendance:** - The manufacturer immediately prior to the commencement of glazing shall adjust and set all windows and doors and accept responsibility for the satisfactory working of the opening frames.

11.14 **Poly-sulphide:** -The gaps between frames and supports and also any gaps in the door and windows sections shall be raked out as directed and filled with poly-sulphide of approved colour and make to ensure complete water tightness. The poly-sulphide shall be of such colour and composition that it would not stain the masonry/concrete work, shall receive paint without bleeding, will not sag or run and shall not set hard or dry out under any conditions of weather. The sample of poly-sulphide to be used for this purpose shall be got approved from the architect before its actual use.

11.15 **Details of Test:** -

11.15.1 The various tests on aluminium sections shall be conducted in accordance with the relevant IS codes.

11.15.2 The minimum number of tests for anodizing and corrosion resistance shall be as given below: -

S.No.	Details	No. of Tests
1.	Doors, windows and ventilators	One test for every 1000 kg or part thereof.

11.15.3 The samples of major member of each unit of doors/ windows shall be selected at random by Engineer-in-Charge as such that all the aluminium section shall be got tested.

11.16 **Acceptance Criteria:** - The aluminium work shall carry two years guarantee after completion of work against unsound material, workmanship and defective anodizing/ powder coating as per guarantee bond.

Two years guarantee in prescribed Performa attached under **page No.48** must be given by the specified firm, which shall be counter signed by the contractor, in token of his overall responsibility. In addition to security deposit 10% (ten percent) of the cost of these items would be retained as security deposit and the additional security deposit amount so deducted would be released after two years from the date of completion of the entire work under the agreement, if the performance of the items is found satisfactory. If any defect is noticed during the guarantee period, the contractor should rectify it within seven days and if not attended to the same will be got done from another agency at the risk and cost of contractor. However, this security deposit can be released in full if bank guarantee of equivalent amount is produced and deposited with the department.

11.17 **Rates: -**

11.17.1 The rates of the item shall include the cost of materials, labour required in all the above operations.

11.17.2 The rates include the cost of hinges/ pivots and rest of the fittings shall be paid separately.

12.0 **SPECIFICATIONS FOR SOLID POLY VINYL CHLORIDE (PVC) DOOR SHUTTERS: -**

12.1.0 **SCOPE:**

12.1.1 This specification lays down requirement regarding types, sizes, material, construction, workmanship, finish, performance evaluation, sampling and testing of solid Poly Vinyl Chloride (PVC) Panelled door shutters for use in residential buildings, non-residential buildings such as offices, schools, hospitals, etc.

12.1.2 This specification does not cover large size door shutters for industrial and special buildings such as workshops, garages, godowns etc.

12.1.3 PVC door shutters shall be used in internal locations only.

12.2.0 **REFERENCES:**

12.2.1 The Indian Standards and other Standards listed in Annexure-I are necessary adjuncts to this standard. The products bearing BIS certification i.e. ISI Mark with code number shall have precedence over those not bearing ISI Mark.

12.3.0 **TERMINOLOGY:**

12.3.1 For the purpose of this specification, the definitions given below in addition to those given in IS 707-1976 shall apply:

12.3.1.1

- (i) Blistering: Air or solvent entrapped during moulding.
- (ii) Colour blots: Colour blots occurring on account of uneven distribution of pigment.
- (iii) Crazing: Fine hair cracks on the surface.
- (iv) Defective Impregnation: Imperfect impregnation of PVC resin with other additives.
- (v) Colour Fading: Fading of colour on exposure to sunlight.
- (vi) Impurities: Presence of matter other than those specified.
- (vii) Pin holes: Pores of size less than 1mm appearing on the surface.
- (viii) Small Pores: Pores of size more than 1mm but less than 2mm appearing on the surface.
- (ix) Wrinkling: A slight ridge or furrow on surface.
- (x) Aggregate Defects: Presence of defects such as pin holes, impurities and traces of mending 5 or more in aggregate for defects at localized place.

12.4.0 **HANDLING:**

12.4.1 Handling and direction of closing of shutters shall be designated in accordance with IS: 4043:1969.

12.5.0 **MATERIAL:**

12.5.1 Poly Vinyl Chloride Resin (suspension grade) is the basic raw material of PVC compound. PVC resin in mixed with chemicals like calcium searate, hydrocarbon Wax, Titanium dioxide, calcium carbonate Acrylic base etc. Further additives like UV stabilizers, impact modifiers, pigments, epoxy plasticizer, lubricants, acrylic processing aid etc. are also added. The purpose of adding the chemicals and additives is to impart strength, surface finish, colour and resistance to fading by light rays. These chemicals are mixed in the desired proportion and shall be used in the formulation of PVC material and for free and smooth extrusion of PVC cellular sheets.

12.6.0 **PROCESS:**

12.6.1 **MIXING:** The PVC material so formulated with the addition of chemicals, fillers & additives shall be mixed dry powder form in a high speed hot mixer at a temperature of 110⁰ C to 125⁰ C. The heated dry blend is then to be cooled at room temperature. However, the temperature has to be determined keeping in view the climatic conditions and the process requirements.

12.6.2 **EXTRUSION:** The cooled dry blend is off loaded into the hopper of the extruder, and then is fed to the screw & barrel of the extruder, where it is melted and kneaded at varying temperatures upto 205⁰ C by rotating screws. The thick paste of PVC material is then passed through a hot die to make the sheet of required thickness.

12.6.3 **POLISHING:** The basic shape of the sheet so acquired is then polished with the help of a three-roll calendar. At the same time the sheet is cooled by circulating water in the rolls of the calendar and there after on a roller table by atmospheric air.

12.6.4 **CUTTING:** The final finished product coming out of the haul-off is cut as per the required size.

13.1 **PAVER BLOCKS:** The paver blocks shall confirm to IS :15658: 2006 Testing and sampling shall be conducted to satisfy the code. The contractor shall submit the test certificate of paver blocks along with the supply of paver blocks.

Supplementary special condition :

- 1 The stone aggregate for R.C.C. / C.C. items shall be double screened and washed and shall comply with the grading requirement as specified in IS-383 (latest edition) for stone aggregate besides meeting other requirement as specified their in. If the contractor / agency to use crushed aggregate nothing extra shall be paid on this account.
- 2 The contractor agency shall make his own arrangement of water for construction purposes. Incase, the contractual agency takes temporary water connection from M.C., Chandigarh, the recovery of water charges @ 1.5% shall be made as per Notification issued by the Secretary Local Govt. Chandigarh Administration vide notification No. 6/1/195-FII(8)2011/4088, dated 24.05.2011 conveyed vide E.E. M.C. P.H. Division No. 2 vide memo no. 1533-62, dated 02.06.2011.
- 3 Labour Cess shall be deducted from the C.C. running & final bills and that amount will be deposited to the Chandigarh Building and Other Constructions Workers Welfare Funds.
- 4 The contractor shall have to obtain labour license from the Assistant Labour Commissioner, Chandigarh after getting his established registered under the Building and other Construction Act 1996 notified vide Chandigarh Administration No. 353-383 dt. 15.1.2010 issued by the Registering Officer, under the Building and other construction workers Act and Assistant Labour Commissioner, U.T. Chandigarh U.T.
- 5 The bidder shall have to give undertaking regarding constitution of the firm /business i.e. whether proprietorship firm/Partnership firm/ Limited Company/Public Limited Company at the time of submission of tender and any change in the same at any stage shall be immediately intimated in writing to the Engineer-in-charge. In case of partnership/Limited/Public Limited companies, the Article of Memorandum of Association shall be submitted by the bidder.
- 6 Sales-tax / Vat (except service tax), purchase tax, turnover tax or any other tax applicable in respect of this contract shall be payable by the Contractor and Government will not entertain any claim whatsoever in respect of the same. However, in respect of service tax, same shall be paid by the contractor to the concerned department on demand and it will be reimbursed to him by the Engineer-in-charge after satisfying that it has been actually and genuinely paid by the contractor.
- 7 The department will assist in arranging electric and water connection at the site of work. However the Security / Consumption / installation charger shall be borne by the contractor.

- 8 In case of failure or default in the performance or responsibilities or breach of terms and conditions of DNIT or agreement, action as per **“Policy on blacklisting, 2009”** issued vide Finance Department Chandigarh Administration Notification No. 1927-F&PO(3)-2009/1170 dt. 27.2.2009 shall be taken.
- 9 Only one common %age above or below the rates / amount mentioned in th DNIT shall be quoted by the bidder for all items. Any other item of DSR2014 if required to be executed shall be paid on DSR2014 rates + prevailing cost index on DSR +% (plus / minus percentage) quoted by the bidder. Similarly rates for extra N.S. items got executed shall be adjusted by applying the quoted %age on the approved analysis of rate for the respective item.
- 10 All deviation beyond permissible limit shall be paid with financial approval of the competent authority at the already approved contractual rates for the respective items.

FORM OF PERFORMANCE SECURITY
BANK GUARANTEE BOND

In consideration of the President of India (hereinafter called "The Government") having offered to accept the terms and conditions of the proposed agreement between _____ and _____ (hereinafter called "the said contractor(s)" for the work _____ (hereinafter called "The said agreement") having agreed to production of a irrevocable Bank Guarantee for Rs. _____ (Rupees _____ only) as security/guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said agreement.

1. We _____ (hereinafter referred to as "the Bank) hereby undertake to (indicate the name of the bank) pay to the Government an amount not exceeding Rs. _____ (Rupees _____ only) on demand by the Government.
2. We _____ do hereby undertake to pay the amounts due and payable (indicate the name of the bank) under this Guarantee without any demure, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____ (Rupees _____ only).
3. We, the said bank further undertake to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.

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

4. We _____ further agree that the guarantee herein contained shall (indicate the name of the Bank) remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Engineer-in-Charge on behalf of the Government certified that the terms and conditions of the said agreement have been fully and properly carried out by the said contractor (s) and accordingly discharges this guarantee.
5. We _____ further agree with the Government that the government (indicate name of the bank) shall have the fullest liberty without our consent and without effecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor(s) and to 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(s) or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
6. This guarantee will not be discharged due to the change in the constitution of the Bank or the contractor(s).
7. We _____ lastly undertake not to revoke this guarantee except (indicate the name of Bank) with the previous consent of the Government in writing.
8. This guarantee shall be valid upto _____ unless extended on demand by Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. _____ (Rupees _____ only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

Dated the _____ day of _____ for _____
(indicate the name of Bank)

**GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR
FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF
WATER-PROOFING WORKS (All Water - Proofing Items).**

The agreement made this..... day of (Two Thousand _____ only) betweenS/o(hereinafter 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 building and structures in the said contract recited completely water and leak-proof.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said work will remain water and leak proof, for ten years from the date of completion of work.

NOW THE GUARANTOR hereby guarantee that work executed by him will render the structures completely leak proof and the minimum life of such water proofing treatment shall be ten years to be reckoned from the date after the 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 and binding on Guarantor.

During this period of guarantee, the guarantor shall make good all defects and in case of any defect being found render the building water proof to the satisfaction of the Engineer-In-Charge 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 execute the water proofing or commits breach thereunder, then the guarantor will indemnify the principal and his successor 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 BEHALF OF THE PRESIDENT OF INDIA BY in the presence of :-

1. 2.

GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR
FOR REMOVAL OF DEFECTS AFTER COMPLETION
IN RESPECT OF SANITARY INSTALLATIONS / WATER SUPPLY / DRAINAGE WORK.

The agreement made this..... day of (Two Thousand only) betweenS/o(hereinafter 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 contract recited structurally stable, leak proof and sound material, workmanship, anodizing, colouring, sealing.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said work will remain structurally stable, leak proof and guaranteed against faulty material and workmanship, and finishing for two years from the date of completion of work.

NOW THE GUARANTOR hereby guarantee that work executed by him will be free from any leakage, seepage, cracks in pipes and guaranteed against faulty material and workmanship, defective galvanizing for two years 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 and in case of any defect to satisfaction of 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 make good all defects or commits breach thereunder, then the guarantor will indemnify the principal and his successor 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. 2.

**GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR
FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF
STONE WORK/ TILE WORK.**

The agreement made this..... day of (Two Thousand _____ only) betweenS/o(hereinafter 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 contract recited 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 and materials.

NOW THE GUARANTOR hereby guarantee that work executed by him will remain structurally stable after the expiry of maintenance period prescribed in the contract for the minimum life of five years 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 thereunder, then the guarantor will indemnify the principal and his successor 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 BEHALF OF THE PRESIDENT OF INDIA BY in the presence of :-

1. 2.

**GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR
FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF
ANTI TERMITE WORKS.**

The agreement made this..... day of (Two Thousand only) betweenS/o(hereinafter 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 building and structures in the said contract recited completely termite proof.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said structure will remain termite proof, for ten years from the date after the maintenance period prescribed in the contract expires.

NOW THE GUARANTOR hereby guarantee that work executed by him will render the structures completely termite proof and the minimum life of such termite proofing treatment shall be ten years 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 and binding on Guarantor.

During this period of guarantee, the guarantor shall make good all defects and for that matter, shall replace at his risk & cost such wooden members as may be damaged by termites and in case of any other defect being found, he shall render the building termite proof at his cost to the satisfaction of the Engineer-In-Charge and shall commence the works of such rectification within seven days from date of issuing notice from 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 and in the latter case the decision of the Engineer-in-charge as to the cost recoverable from the Guarantor shall be final and binding.

That if the guarantor fails to execute the anti termite treatment or commits breach hereunder, then the guarantor will indemnify the principal and his successor 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 BEHALF OF THE PRESIDENT OF INDIA BY in the presence of :-

1. 2.

**GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR
FOR REMOVAL OF DEFECTS AFTER COMPLETION
IN RESPECT OF ALUMINIUM DOORS, WINDOWS VENTILATOR WORK.**

The agreement made this..... day of (Two Thousand only)..... betweenS/o(hereinafter 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 contract recited structurally stable, workmanship, powder coating, anodizing, colouring and sealing etc.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said work will remain structurally stable and guaranteed against faulty material and workmanship, defective anodizing/ powder coating for five years from the date of completion of work.

NOW THE GUARANTOR hereby guarantee that work executed by him will remain structurally stable and guaranteed against faulty material and workmanship, defective anodizing/ powder coating for five years 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 and in case of any defect to satisfaction of 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 make good all defects or commits breach there under, then the guarantor will indemnify the principal and his successor 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. 2.

LIST OF PREFERRED MAKES FOR CIVIL / SANITARY WORKS.

S.No.	Material	Preferred make
1. (i)	Ordinary Portland/Portland Pozzolona Cement (Grey) (43 Grade)	: ACC, Ultratech Cement Ltd., Gujarat Ambuja, Vikram, Birla, JK Cement, JP Associates, Shree Cement Ltd., J.K. Lakshmi, M/s Binani Cement. M/s Khyber Industries Pvt. Ltd., M/s Jammu & Kashmir Cement Ltd., Khrum Cement works
(ii)	White Cement	: Birla White / J. K. White
2.	Reinforcement Steel	: SAIL, Tata Steel, RINL, Jindal Steel and Power Ltd., JSW Steel Ltd.
3.	Veneered Ply/ Particle Board	: Novapan, Kitply, Anchor, National, Archidply, Action TESA, Durian, Green Ply, Euro.
4.	Laminated Particle Board/ Laminates	: Novapan, Kitply, National, Archidply, Century Ply, action TESA (M/s Balaji Action Buildwell, N. Delhi)
5.	PVC Pipe & Fittings	: Supreme, AKG, Finolex, SFMC, Diplast.
6.	Oil Bound Distemper	: Nerolac , Berger (Bison Acrylic), Asian Paints (Tractor Acrylic), ICI.
7.	Synthetic Enamel / Emulsion Paint Acrylic exterior Paint	: ICI (Dulux Gloss), Nerolac, Berger, Asian Paints : Asian Paints, Nerolac, ICI, Berger.
8.	Steel Primer	: ICI, Nerolac, Berger, Asian Paints.
9.	Wood Primer	: ICI, Nerolac, Berger, Asian Paints.
10.	Stainless Steel Sink (Out of Salem Steel only)	: ALLEX, DIAMOND, BLUE STAR, JAYNA (M/s Jain Brothers Sanitation Pvt. Ltd. 12 SSI, Industrial Area, Delhi)
11.	CP Fittings/Mixer Pillar taps Washers	: Kingston, Gem, JAQUAR, Crabtree, JAINKO, ANNAPURNA, Kalsi Pump Pvt. Ltd., Dhawan Sanitary Udyog (Prima), SOMANY, Marc.
12.	CP Accessories	: Kingston, Gem, JAQUAR, Kalsi Pump, Dhawan Sanitary Udyog (Prima), Annapurna, Marc
13.	G.I. Pipes	: B.S.T., Jindal (Hissar), Tata Steel Tubes Ltd., Prakash Surya
14.	G.I. Fittings	: Unik, KS, AMCO, AVR.
15.	Vitrified Tiles	: NITCO, JOHNSON, RESTILE, SOMANY, KAZARIA, BELL.
16.	Aluminium Sections	: Hindalco, Jindal, Indian Aluminium Co. or approved equivalent.
17.	Hydraulic Door closer/ Floor Spring	: HARDWYN, Godrej, DORMA, KICH
18.	Anodised Aluminium Hardware	: HARDWYN, EVERITE, SIGMA (ISI MARKED), DORMA (Heavy Duty)
19.	TEMPERED GLASS	: MODI FLOAT & SAINT GOBAIN, ASAHI.
20.	Polyester Powder Coating Shades	: NEROLAC, BERGER, J&N
21.	Friction Stay Hinges	: Earl-Bihari, KICH, DORMA.

22.	Nuts, Bolts and Screws, Steel	:	Kundan Priya Atul.
23.	EPDM Gasket	:	Hanu/ Anand.
24	Tile Adhesive	:	Cico, Pidilite, Ferrous.
25.	Mineral Fibre False ceiling,	:	MONAD, Arm Strong , DEXUNE or equivalent as per relevant IS Code
26.	Metallic (G.I.) Powder coated False Ceiling :		M/s Harrisons & Associates, Faridabad, Dexune, MONAD, LUXALON,
27.	Hermitically sealed performance Glass & toughened glass	:	Saint Gobain, Asahi, Pilkington, Viracon (processed by themselves by their approved processors)
28.	Gypsum Board 12.5 mm thick	:	Gyp Pro /Aerolite
30.	Float glass panes	:	Modi, Saint Gobain
31	Wooden flooring	:	VISTA/ PERGO/ BVG/ GREENLAM/ TESA
33.	False Ceiling	:	Armstrong, Dexune, Aerolite.

ELECTRICAL ITEMS

34.	Electric cables	:	Finolex, Havells
35.	Main switch	:	Havells, Standard, Crompton
36.	MCCB/ELCCB/Shut-Cabacter	:	L&T, ABB, Siemens, GE, Havells
37.	Metering equipments	:	AE/L&T/BCH
38.	On-Off Sleetor	:	L&T/BCH

FORM OF EARNEST MONEY (BANK GUARANTEE)

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

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

SEALED with the Common Seal of the said Bank this day of20.....

THE CONDITIONS of the obligation are:

- (1) If after tender opening the contractor withdraws, his tender during the period of validity of tender (including extended validity of tender) specified in the form of tender.
- (2) If the contractor having been notified of the acceptance of his tender by the Engineer-in-charge:
 - (a) fails or refuses to execute the form of Agreement in accordance with the instruction to contractor if any.
 - (b) fails or refuses to furnish the performance guarantee in accordance with the provision of tender document and instructions to contractor.

We undertake to pay to the Engineer-in-charge either upto to the above amount or part thereof upon receipt of first written demand, without the Engineer-in-Charge having to substantiate his demand, provided that in his demand the Engineer-in-Charge will note that the amount claimed by him condition or conditions.

This Guarantee will remain in force up to and not later than the above date.

GUIDELINES REGARDING SIGNING OF INTEGRITY PACT BY THE BIDDER AT THE TIME OF SUBMISSION OF BID (Vide No. DG/CON/225A dated 10.08.2011)

Sub: Clarification regarding Introduction of Integrity Pact introduced vide OM No. CON 255 dated 23.05.2011

A new provision of Integrity Pact (IP) was introduced in GCC-2014 vide OM No. CON/255 dt. 23.05.2011. In the OM it is mentioned that at the time of submission of bid, it shall be mandatory to sign the pact by the bidder failing which the bidder will stand disqualified from the tendering process and such bid would be summarily rejected.

Some field Units have raised their doubts regarding submission of duly signed Integrity Pact by the bidder at the time of submission of bid. In this regard it is clarified that :-

1. Submission of duly signed Integrity Pact by the bidder is applicable in case of manual tendering where e-tendering is not followed.
2. In case of manual tendering Executive Engineer should sign the first page addressed to the intending bidder at the time of issue of tender form and before submission of the bid, each bidder shall sign IP at respective places and submit the bid. If duly signed IP is not submitted by the bidder, such bid shall not be considered.
3. In case of e-tendering, Integrity Pact shall be treated in the same manner as other components of the bid document. In e-tendering, the intending bidder does not sign any document physically and entire bid document is submitted through digital signature. Since IP is a part of bid document no separate physical submission is required with other documents to be submitted in the office of tender opening authority. In addition to other component of bid document, the Integrity Pact along shall also be signed between Executive Engineer and successful bidder after acceptance of bid.

INTEGRITY PACT

To,
University Engineer

Sub: NIT No. for the work

Dear Sir,

It is here by declared that CPWD is committed to follow the principle of transparency, equity and competitiveness in public procurement. The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender/bid documents, failing which the tenderer/bidder will stand disqualified from the tendering process and the bid of the bidder would be summarily rejected.

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

Yours faithfully

University Engineer

INTEGRITY PACT

To,
University Engineer,
.....
.....

Sub: Submission of Tender for the work of

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

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

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

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

Yours faithfully

(Duly authorized signatory of the Bidder)

To be signed by the bidder and same signatory competent / authorized to sign the relevant contract on behalf of PEC University of Technology, Chandigarh.

INTEGRITY AGREEMENT

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

BETWEEN

**Director, PEC University of Technology, Chandigarh,,
Estate Office, PEC University of Technology, Chandigarh (Hereinafter referred as the
(Address of Division)**

'Principal/Owner', which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

.....
(Name and Address of the Individual/firm/Company)
through (Hereinafter referred to as the

(Details of duly authorized signatory)

“**Bidder/Contractor**” and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

Preamble

WHEREAS the Principal / Owner has floated the Tender (NIT No.) (hereinafter referred to as “**Tender/Bid**”) and intends to award, under laid down organizational procedure, contract for

.....
(Name of work)

hereinafter referred to as the “**Contract**”.

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s). AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as “**Integrity Pact**” or “**Pact**”), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

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

Article 1: Commitment of the Principal/Owner

- 1) The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:
 - (a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - (b) The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.
 - (c) The Principal/Owner shall endeavour to exclude from the Tender process any person, whose conduct in the past has been of biased nature.
- 2) If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the

Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

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

- 1) It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Institute all suspected acts of **fraud or corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
- 2) The Bidder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:
 - a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner’s employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.
 - b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
 - c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

- d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/ representatives in India, if any. Similarly Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participate in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.
 - e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.
- 3) The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
 - 4) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice **means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Institute interests.**
 - 5) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/ her reputation or property to influence their participation in the tendering process).

Article 3: Consequences of Breach

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

- a. If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. **Such exclusion may be forever or for a limited period as decided by the Principal/Owner.**
- b. **Forfeiture of EMD/Performance Guarantee/Security Deposit:** If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder/Contractor.
- c. **Criminal Liability:** If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

Article 4: Previous Transgression

- 1) The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.
- 2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Bidder/Contractor as deemed fit by the Principal/ Owner.
- 3) If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

Article 5: Equal Treatment of all Bidders/Contractors/Subcontractors

- 1) The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Subcontractors/ sub-vendors.
- 2) The Principal/Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.
- 3) The Principal/Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

Article 6- Duration of the Pact

This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 12 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded. If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority, **PEC University of Technology, Chandigarh.**

Article 7- Other Provisions

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

Article 8- LEGAL AND PRIOR RIGHTS

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contact documents with regard any of the provisions covered under this Integrity Pact. IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

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

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

WITNESSES:

1.
(signature, name and address)

2.
(signature, name and address)

Place:
Dated :

PARTICULAR SPECIFICATIONS (LIFT Works)

Description of Lift	Hydraulic Lift for disable OR Physically Handicapped person. Minimum Warranty 18 Months from the date of supply against all manufacturing defects with comprehensive AMC of one year from the date of expiry of warranty .
Building Uses & Address	At Computer Centre PEC Chandigarh.
Quantity	01 No
Site Detail & Civil Dimensions	
Liftway Walls	MS frame structure with RCC base
Inside Dimension of liftway (After the plaster & white wash	1600mm X 1600mm.
Pit Size	300mm /As per your site).
Floor to Floor Height	8 Feet / floor /As per your site).
Total Travel Height	8 Feet /As per your site).
Machine Placement	Within 3 mtr on the suitable place at Basement.
Door Lintel Height	2210mm from the finish floor level.
Area Under Roof	Suitable coverage to save the lift from the rains and weather.
The Specification of Lift	
Capacity	300KG
Travel destination/floor marking	Basement + Ground
Total No. of stops	02No.
Entry Exit Floor wise	Opposite Sides.
Lifting Machine	Hydraulic Lifting arrangement of GMV-Italy or equivalent The components and complete lift packages, complete range of products for modernization already in compliance with European EN 81.70/ equivalent standard of Indian Standard.
Machine Power	5KW +_ 5%
Rated Speed	0.3mtr per second With acceleration/deceleration provision(Double Speed)
Wire Rope Detail	8mmX3 Ropes / or as per requirement

Car Size	1000mm (W) X1100mm (D). (As per your site).
Ceiling Height	2000mm
Door Entrance Size	700mm Wide X 2000mm High on both sides.
Door Operation	Center opening automatic doors on both sides.
Door Protection	Infrared curtain full length.
Elevator Controller	Microprocessor, VVVF Drive, Self-Diagnostic& LCD Display in MS encloser.
Signals & Indicator	LED Arrow for travel direction & Floor Position.
Cabin Design	
Rear Side	Safety Glass in SS Frame.
Right Side	Safety Glass in SS Frame.
Left Side	Safety Glass in SS Frame.
Car Flooring	Composite marble.

Car Ceiling	Suspended type with concealed LED lighting.	
Car Door Material & Finish	Safety Glass Door in SS Frame	
(a) Door Quantity	02 Door	
(b) Car Door Height	2000mm	
Hand Rail	As per Manufacturer / Approved Shop Drawing by client	
Car Operating Button	As per Manufacturer / Approved Shop Drawing by client	
Fan	As per Manufacturer / Approved Shop Drawing by client	
Light	As per Manufacturer / Approved Shop Drawing by client	
Emergency Light	As per Manufacturer / Approved Shop Drawing by client	
Push to Talk Facility	As per Manufacturer / Approved Shop Drawing by client	
Landing Doors		
Door Quantity	04No.	Total Doors Including Car Doors: 02No.
Landing Door Material & Finish	Safety Glass Door In SS Frame	
Door Jamb Material	SS Bush Finish.	
Door Operation	Center Opening Automatic in coordination with car doors.	
Manually Opening Arrangement	As per Manufacturer / Approved Shop Drawing by client	
Landing Sills	Anodized Aluminum Alloy.	
Hall Buttons & Location	SS Clad, LED illuminated placed near the side of the entrance.	
Guide Rails	Machined Tee in MS 2 NO, for cabin.	

Guide shoe Assly	Self Adjustable CI (Graded) Guide Shoes with Oil Grooved Nylon Gibbs for car.
Safety Gears	Wedge Type Safety Locks.
Over Speed Governor	Centrifugal Ratchet locking OSG with Limit Switch.
Buffer Springs	2 No.

Schedule of Quantities

Sl. No.	Item Description	Qty	Units
1	2	3	4
	EARTH WORK		
1.00	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.		
1.1	All kinds of soil.	4.03	cum
2.0	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	2.02	cum
	CONCRETE WORK		
3.0	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :		
3.1	1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size)	0.48	cum
	REINFORCED CEMENT CONCRETE		
4.0	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level :		
4.1	1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)	1.28	cum
5.0	Reinforced cement concrete work in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases up to floor five level, excluding the cost of centering, shuttering, finishing and reinforcement, with 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size).	1.35	cum
6.0	Centering and shuttering including strutting, propping etc. and removal of form for:		
6.1	Foundations, footings, bases of columns, etc. for mass concrete	1.79	sqm
7.0	Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	23.4 2	sqm
8.0	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete up to plinth level.		
8.1	Thermo-Mechanically Treated bars	359. 55	Kg
	BRICK WORK		
9.0	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 :		
9.1	Cement mortar 1:4 (1 cement : 4 coarse sand)	0.61	cum
	STEEL WORK		
10.0	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.		
10.1	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	29.5	kg

	FLOORING		
11.0	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :		
11.1	25 mm thick	1.95	sqm
12.0	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	0.29	sqm
	FINISHING		
13.0	12 mm cement plaster of mix :		
13.1	1:4 (1 cement: 4 coarse sand)	12.4 9	Sqm
14.0	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade :		
14.1	New work (two or more coats) over and including water tinnable priming coat with cement primer	12.4 9	Sqm
15.0	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :		
15.1	Two or more coats on New Work	2.21	Sqm
	Repairs to Building		
16.0	Fixing chowkhat in existing opening in brick / RCC wall with dash fasteners/ Chemical fasteners of appropriate size (3 nos on each vertical member of door chowkhat and 2 nos on each vertical member of window chowkhats), including Cost of dash fasteners/ chemical fastener.	1	Each
	DISMANTLING & DEMOLISHING		
17.0	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.	0.34	cum
18.0	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.		
18.1	In cement mortar	1.06	cum
19.0	Taking out doors, windows and clerestory window shutters (steel or wood) including stacking within 50 metres lead :		
19.1	Of area beyond 3 sq. metres	1	each
20.0	Dismantling stone slab flooring laid in cement mortar including stacking of serviceable material and disposal of unserviceable material within 50 metres lead.	6.71	sqm
	LIFT WORKS		
21.0	Design , Manufacture, supply, installing, Erection Testing and Commissioning of 300 Kg Hydraulic Lift microprocessor based VVV F drive , slf diagnostic & LCD display having inside dimension of of lift way 1600 mm x 1600mm , pit size 300 mm with total travel of 8' or as per site with opposite side of entry exit having car size 1000 mm width x 1100 mm Depth abd celing height of 2000 mm , including centre opening automatic dorrns on both side with 2 Nos. Landing i.e. Ground + First (Total - 2 Stops) with supply and manufacuring of suitable pipe structure comprising square hollow section 100mm x 100m x 5 mm duly primered with foundation structure as per carload and passenger load bolts templates , base plates and bolts complete in all respects including scaffolding during erection , machine lifting channel hook , MCCB ELCB of proper rating and cable with 3 Ph 415 Volt 50 Hz AC supply for 5 KW lift , voltage stablizer, double earthing in Machine area etc. as per following	1	Each

	safety features as per details specification as mentioned in Tender document . Minor Building works such as hole with grouting of landing push buttons , boses , grouting of controller , floor level finishing , buffering , spring pedestals Architrave etc. is inclusive in this ite with satisfaction of EIC .		
21.0	Auto Rescue Device with Battery Backup (for Passenger Lift).		
21.1	Manual Release System.		
21.2	Emergency Alarm with battery backup		
21.3	Emergency Light with Battery Backup.		
21.4	Full Height Infra Red Curtains for Cabin Entrance Safety.		
21.5	Electromechanical Landing door Interlocking for manually operated doors.		
21.6	Door Open Arrangement/Door Open Key for Auto doors.		
21.7	The Micro Processor card displays the fault and its area.		
21.8	Machine temperature if increases more than the designated value, the thermostats cut off the supply.		
21.9	Overload Electrical Safety.		
21.10	Door OPEN/CLOSE timing adjustable for Auto Doors.		
21.11	Door OPEN/CLOSE Buttons are provided inside the cabin for Auto Doors.		
21.12	Automatic Phase reversal Device in the panel.		
21.13	Cabin Gate safety switches.		
21.14	Over Speed Governor with centrifugally operative limit switch in the machine room to hold the cabin if descending speed increases than the designated value.		
21.15	Upper and lower terminal limits.		
21.16	Upper and lower final limits.		
21.17	Motor Compatible to 150 starts per hour.		
21.18	The System is capable of withstanding (+/-5%) of the voltage fluctuation.		
21.19	Buffer spring in the pit.		
21.20	Steel from standard manufacturers.		
21.21	Electrical wiring multicore copper conductors.		