

GOVERNMENT OF INDIA
Central University of Rajasthan

Name of Work: Construction of Laboratory platform/working bench in the department of Pharmacy at Central University of Rajasthan, Bandersindri, Distt. Ajmer, Rajasthan

INDEX

SL. NO.	DESCRIPTION	PAGE NOS.
1.	Index	1
2.	Information and Instructions for Contractors	2 – 3
3.	Integrity Agreement	4 – 8
	<u>PART - A</u>	
4.	CPWD-6 for Tendering	9 – 11
5.	Form CPWD – 7	12 – 14
6.	Schedule A, B, C, D, E, F (Major Component)	15 – 18
	<u>PART – B</u>	
8.	General Rules & Directions	19 – 21
9.	Additional Conditions	22 – 27
10.	Additional Specifications	28 – 30
11 – 11 (A) to 11 (C)	Particular Specifications	31 - 45
12.	List of Plant/Equipment.	46 – 46
13.	Guarantee Bonds/Affidavit for work (Annexure I to IV)	47 – 51
14.	List of preferred products for Civil work (Annexure V to VI)	52 – 54
	<u>PART - C (For Electrical Work)</u>	
15.	Schedule A, B, C, D, E, F (Minor Component)	55 – 59
16.	Additional Term & Conditions for Electrical work	60 – 65
17.	Technical Specifications for Internal EI Work	66 - 69
18.	Schedule of Quantity for Civil work & Electrical Work	Attached in Financial bid

Certified that this NIT contains 1 to 69 pages including NIL drawings.

Executive Engineer
Central University of Rajasthan

Notice inviting tender approved for Rs. 1608639/- (Rupees Sixteen Lacs Eight thousand Six hundred thirty nine only)

Registrar
Central University of Rajasthan

INFORMATION AND INSTRUCTIONS FOR CONTRACTORS FOR TENDERING

The Registrar, Central University Rajasthan, Bandersindri, Distt. Ajmer (Raj.) invites percentage rate tenders from approved contractors of CPWD, MES, State PWD and Public sector undertaking setup by state/Central Government for the following work:

S. No.	NIT No	Name of work & Location	Estimated cost put to tender	Earnest Money Deposit	Period of completion	Last date & time of submission of tender	Time & date of opening of tender
1	2	3	4	5	6	7	9
1	CURAJ/R/F/117/2019/4084 Date:30.12.2019	Construction of Laboratory platform/working bench in the department of Pharmacy at Central University of Rajasthan,	Civil Work: Rs. Rs. 1487037/- Electrical Work: Rs. 121602/- Composite Work: Rs. 1608639/-	Rs. 33000/-	02 (Two Months)	Upto 1400 hrs on 16.01.2020	At 1500 hrs on 16.01.2020

1. the intending **tenderer** must read the terms and conditions carefully. He should only submit his tender, if he considers himself eligible and he is in possession of all the documents required. Information and instructions for tenderers posted on website shall form part of tender document.
2. The tender document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract and other necessary documents can be seen and downloaded from website www.curaj.ac.in or www.eprocure.gov.in free of cost.
3. Earnest Money Deposit in the form of Demand Draft (drawn in favour of Central University of Rajasthan) of any Scheduled Bank payable at Bandarsindri/Kishangarh, District-Ajmer
4. Certified Copy of Enlistment Order and certificate of work experience as required shall be submitted along with technical bid.
5. Contractor must ensure to quote rate of each item.
6. The successful tenderer shall be required to submit a Performance Guarantee of 5% (Five percent) of the composite contract amount within a period after issue of letter of acceptance as specified in schedule 'F'. This period can be further extended by the Registrar, Central University of Rajasthan upto a maximum period of 7 days on written request of the contractor.

7. The contractor shall have to execute guarantee bonds in respect of water supply and sanitary installation works, water proofing works, uPVC window, Stone cladding and polyurethane foam work as per Performa at Annexure I & II.
8. Goods and Service Tax , turn over tax, Excise duty, work contract tax or any other tax on materials as applicable shall be paid by the contractor himself. **The contractor shall quote his rates considering all such taxes.**
9. The tender form can be downloaded from the University website www.curaj.ac.in or CPP Portal www.epublishing.gov.in.
10. **Documents to be accompanied along with Technical Bid**
 - 10.1 Attested copy of Registration certificate or registered partnership deed of firm if firm is in partnership.
 - 10.2 EMD of Rs.33000/- through DD favouring Central University of Rajasthan, payable at Bandarsindri/ Kishangarh.
 - 10.3 The bidder should fulfill the criteria of satisfactory execution of works as given below:
 - a) Three similar work of value not less than 40% of the estimated cost put to tender, or
 - b) Two similar works of value not less than 60% of the estimated cost put to tender or
 - c) One similar work of value not less than 80% of the estimated value completed in the last 7 years ending on the last day of the month previous to the one in which the tenders are invited.
 - 10.4 Enlistment Certificate/ Order of the CPWD/ Rajasthan PWD or similar Government Departments.

11-Sealed envelope should contain 2 sealed envelopes marked A & B as prescribed as under:

- a) Envelop A containing Earnest Money of Rs. 33000 /- in the form of Demand Draft in favour of CENTRAL UNIVERSITY OF RAJASTHAN payable at Bandarsindri/Kishangarh. Tender shall be rejected if the Earnest money D.D.'s is not found and also containing the Technical Bid along with the supporting documents,
- b) Envelop B containing the Financial Bid.
 - Both the envelopes shall be placed in another envelope with due mention of Name of work, date & time of opening of tenders and to be submitted in the **Tender Box, Dispatch Section Room No 101, Ground Floor, Administrative Building, Central University of Rajasthan** up to period mentioned above

To be signed by the tenderer and same signatory competent / authorised to sign the relevant contract on behalf of Central University of Rajasthan

INTEGRITY AGREEMENT

This Integrity Agreement is made at on this day of20.....

BETWEEN

Central University of Rajasthan represented through Registrar,CURaj, (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) '**Tenderer/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. CURAJ/R/F117/2019/4084 date: 30.12.2019) (hereinafter referred to as "**Tender/Tender**") and intends to award, under laid down organizational procedure, contract for **Construction of Laboratory platform/working bench in the department of Pharmacy at Central University of Rajasthan, Bander Sindri, Distt. Ajmer, Rajasthan** (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 **Tenderer(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/Tender 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 **Tenderer(s)** with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all **Tenderer(s)** the same information and will not provide to any **Tenderer(s)** confidential / additional information through which the

Tenderer(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 Tenderer(s)/Contractor(s)

- 1) It is required that each Tenderer/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Government / Department all suspected acts of **fraud or corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
- 2) The Tenderer(s)/Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:
 - a) The Tenderer(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 Tenderer(s)/Contractor(s) will not enter with other Tenderer(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 tenders or any other actions to restrict competitiveness or to cartelize in the tendering process.
 - c) The Tenderer(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Tenderer(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 Tenderer(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/representatives in India, if any. Similarly Tenderer(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 tender 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 Tenderer(s)/Contractor(s) will, when presenting his tender, disclose (with each tender as per proforma enclosed) any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.
- 3) The Tenderer(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

- 4) The Tenderer(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice **means a wilful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests.**
- 5) The Tenderer(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 Tenderer(s)/Contractor(s) and the Tenderer/ Contractor accepts and undertakes to respect and uphold the Principal/Owner's absolute right:

- 1) If the Tenderer(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 Tenderer(s)/ Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Tenderer/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 Central University of Rajasthan.**
- 2) **Forfeiture of EMD/Performance Guarantee/Security Deposit:** If the Principal/Owner has disqualified the Tenderer(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 Tenderer/Contractor.
- 3) **Criminal Liability:** If the Principal/Owner obtains knowledge of conduct of a Tenderer or Contractor, or of an employee or a representative or an associate of a Tenderer or Contractor which constitutes corruption within the meaning of Indian Penal code (IPC)/Prevention of Corruption Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

Article 4: Previous Transgression

- 1) The Tenderer 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 Tenderer 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 Tenderer/Contractor as deemed fit by the Principal/ Owner.

- 3) If the Tenderer/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 Tenderers/Contractors/Subcontractors

- 1) The Tenderer(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Tenderer/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Sub- contractors/sub-vendors.
- 2) The Principal/Owner will enter into Pacts on identical terms as this one with all Tenderers and Contractors.
- 3) The Principal/Owner will disqualify Tenderers, who do not submit, the duly signed Pact between the Principal/Owner and the tenderer, 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 tenderers, 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, CPWD.

Article 7- Other Provisions

- 1) Changes and supplements need to be made in writing. Side agreements have not been made.
- 2) 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.
- 3) 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.
- 4) 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 Tenderer/Contractor)

WITNESSES:

1.
(signature, name and address)

2.
(signature, name and address)

Place:

Dated :

CENTRAL UNIVERSITY OF RAJASTHAN
Notice Inviting Tender

Percentage rate tenders are invited on behalf of Central University of Rajasthan from approved contractors of CPWD, MES, State PWD and Public sector undertaking setup by state/Central Government for the work of “**Construction of Laboratory platform/working bench in the department of Pharmacy at Bandarsindri, Distt. Ajmer, Rajasthan**”.

The enlistment of the contractors should be valid on the last date of submission of tender. In case only the last date of tender is extended, the enlistment of contractor should be valid on the original date of submission of tenders.

1. The work is estimated to cost
- | | |
|--------------|--------------------------|
| Civil | : Rs. 1487037/- |
| Electrical: | Rs. 121602/- |
| <u>Total</u> | : Rs. 16,08,639/- |

This estimate, however, is given merely as a rough guide.

2. Agreement shall be drawn with the successful tenderers on prescribed Form No. CPWD 7 which is available as a Govt. of India Publication and also available on website www.cpwd.gov.in. Tenderers 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 **02 (Two Months)** from the date of start as defined in schedule ‘F’ or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the tender documents.
4. The site for the work is available.
5. Tender document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms & conditions of contract to be complied with and other necessary documents except Standard General Conditions of Contract Form can be seen from website www.eprocure.gov.in or www.curaj.ac.in free of cost.
6. Earnest Money Deposit in the form of Demand Draft (drawn in favour of Central University of Rajasthan) of any Scheduled Bank payable at Bandarsindri/Kishangarh, District-Ajmer
7. The Contractor whose tender is accepted will be required to furnish performance guarantee of 5% (Five Percent) of the tender amount within the period specified in Schedule "F". Government Securities or Fixed Deposit Receipt 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.
8. Intending 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 charge 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 & 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.
9. The competent authority on behalf of the Central University of Rajasthan does not bind itself to accept the lowest or any other tender and reserves to itself the authority to reject any or all the tenders received without the assignment of any reason. All tenders in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the tenderer shall be summarily rejected.
 10. Canvassing whether directly or indirectly, in connection with tenderers is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.
 11. The competent authority on behalf of Central University of Rajasthan reserves to himself the right of accepting the whole or any part of the tender and the Tenderers shall be bound to perform the same at the rate quoted.
 12. The tender for the works shall remain open for acceptance for a period of ninety (90) days from the date of opening of tenders if any tenderers 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 Government shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the tenderers shall not be allowed to participate in the re-tendering process of the work.
 13. This notice inviting tender shall form a part of the contract document. The successful tenderers/contractor, on acceptance of his tender by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of:-
 - a) The Notice Inviting tender, all the documents including additional conditions, specifications and drawings, if any, forming part of the tender as uploaded at the time of invitation of tender.
 - b) Standard C.P.W.D. Form 7 (GCC for CPWD works 2014) amendments up to date.
 14. For Composite Tenders:
 - 14.1 The Registrar on the behalf of Central University of Rajasthan will call tenders for the composite work. The cost of tender document and Earnest Money will be fixed with respect to the combined estimated cost put to tender for the composite tender.
 - 14.2 The tender document will include following three components:
 - Part A: CPWD-7 including schedule A to F for major component of the work, Standard General Conditions of Contract for CPWD 2014 or latest edition as applicable with all amendments/modifications.
 - 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. (Registrar shall be competent authority under clause 2 and clause 5 as mentioned in schedule A to F for the work) General/specific conditions, specifications and schedule of quantities applicable to minor component the work.
 - 14.3 The tenderer must associate with himself, agencies of the appropriate class eligible to tender for each of the minor component individually.
 - 14.4 The eligible tenderers shall quote rates for all items of major component as well as for all items of minor components of work.

- 14.5 After acceptance of the tender by competent authority, the Registrar shall issue letter of award on behalf of the Central University of Rajasthan. After the work is awarded, the main contractor will have to enter into one agreement with the university. One such signed set of agreement shall be handed over to Estate section/Central University of Rajasthan.
- 14.6 Entire work under the scope of composite tender including major and all minor components shall be executed under one agreement.
- 14.7 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. 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.

Central University of Rajasthan
Percentage Rate Tender & Contract for Works

- (A) Tender for the work of:- **Construction of Laboratory platform/working bench in the department of Pharmacy at Central University of Rajasthan.**
- (i) Tenders to be submitted upto 14:00hrs on 16.01.2020 to The Registrar, Central University of Rajasthan at Room No-101, Administration Building, Central University of Rajasthan, Bandarsindri, Distt. Ajmer.
- (ii) To be opened online in presence of tenderers who may be present at 15:00 hrs on 16.01.2020 in the Conference Room, Administrative Building, Central University of Rajasthan, Bandarsindri, Distt. Ajmer.

TENDER

I/We have read and examined the notice inviting tender, schedule, A, B, C, D, E & F. specifications applicable , Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, special conditions, Schedule of Rate & other documents and Rules referred to in the condition 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 University within the time specified in Schedule "F", viz., schedule of quantities and in accordance 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 condition so far as applicable.

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

A sum of Rs.33000/- is hereby forwarded in demand draft in favour of, Central University of Rajasthan as earnest money. If I/We fail to furnish the prescribed performance guarantee of tender form within prescribed period. I/We agree that the University, without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/we fail to commence work as specified, I/we agree that University shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely, otherwise the said earnest money shall be retained by him towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered, up to maximum of the percentage mentioned in schedule 'F' and those in excess of that limit at the rates to be determined in accordance with the provision contained in clause 12.2 and 12.3 of the tender form.

Further I/We agree that in case of forfeiture of earnest money or both earnest money and 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 Central University of Rajasthan in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.

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

Dated _____

Signature of Contractor

Postal Address* _____

Telephone No.* _____

Fax _____

E-Mail _____

Witness** : _____

Address** : _____

Occupation** : _____

(*) To be filled in by the Contractor.

(**) To be filled in by the Witness.

A C C E P T A N C E

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the Central University of Rajasthan for a sum of Rs. _____ (Rupees

_____)

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

- a)
- b)
- c)

For & on behalf of Central University of Rajasthan

Signature _____

Dated

Designation _____

SCHEDULES OF CIVIL WORKS

SCHEDULE 'A'

Schedule of quantities

(a) Civil – Attached in Financial bid

SCHEDULE 'B' :

Schedule of materials to be issued to the contractor

S.No.	Description of item	Quantity	Rates 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
1	2	3	4
----- NIL -----			

SCHEDULE 'D'

Extra schedule for specific requirement/documents for the work, if any

----- NIL -----

SCHEDULE "E"

Reference to General Conditions of contract : GCC 2014 modified and amended up to date

Name of work : Construction of Laboratory platform/working bench in the department of Pharmacy , Central University of Rajasthan at BandarSindri, Distt. Ajmer, Rajasthan

Estimated Cost of work (Composite) : Rs. 1608639/-

(I) Major Component (Civil) : Rs. 1487037/-

(II) Minor component (Electrical) : Rs. 121602/-

CLAUSE 10CC : Not Applicable

CLAUSE 10C & 10 CA : Applicable

SCHEDULE 'F' (FOR CIVIL COMPONENT OF WORK)

1. *Reference to General Conditions of contract: General Conditions of contract for Central PWD Works 2014.*
2. Name of work : Construction of Laboratory platform/working bench in the department of Pharmacy,Central University of Rajasthan at Bander Sindri, Distt. Ajmer, Rajasthan

- (i) The work is estimated to cost *Civil : Rs. 1608639/-*
Elect.: Rs. 121602/-
Civil : Rs. 1608639/-
- (ii) Earnest Money : *Rs. 33000/-*
- (iii) Performance Guarantee : 5% (Five percent) of accepted tendered amount.
- (iv) Security Deposit : 2.5% (Two point five percent) of accepted tendered amount for Civil work. The Earnest money deposited at the time of application will become part of Security Deposit.

3. General Rules & Directions

- (i) Officer inviting tender : **Registrar Central University of Rajasthan, Bandar Sindri, Ajmer**
- (ii) Maximum percentage for quantity of items of work to be executed beyond which rates are to determined in accordance with Clauses 12.2 & 12.3 As given under clause 12 of schedule 'F'.

4. Definition

- (i) Engineer-in-charge **Executive Engineer, C.U. Raj. Bandar Sindri, Ajmer**
- (ii) Accepting Authority Registrar, Central University of Rajasthan,
- (iii) Percentage on cost of materials and labour to cover all overhead and profits 15%
- (iv) Standard Schedule of Rates *DSR 2018 with upto date correction slips*
- (v) Department Estate Section, CURaj
- (vi) Standard CPWD contract GCC for CPWD works 2014

CLAUSE 1

- (i) Time allowed for submission of Performance guarantee from date of issue of letter of acceptance. 20 Days
- (ii) Maximum allowable extension beyond the period as provided in (i) above . 7 Days

CLAUSE 2

- Authority for fixing compensation under clause 2 Registrar
 CURaj Bandar Sindri, Ajmer

CLAUSE 2 A

- Whether Clause 2 (A) shall be applicable N.A.

CLAUSE 5

- (i) Number of days from the date of issue of letter of acceptance for reckoning date of start 15 Days
- (ii) Time allowed for execution of work **02 (Two Months)**

- (iii) Extension of time Registrar
CU Raj *Bandarsindri, Ajmer*
- (iv) Rescheduling of mile stones Registrar
CU Raj *Bandarsindri, Ajmer*

CLAUSE 6 / 6A

Clause applicable 6 (Applicable)

CLAUSE 7

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

CLAUSE 10B (ii)

Whether clause 10-B(ii) shall be applicable Yes

CLAUSE 10C

Component of labour expressed as percentage of value of work 25%

CLAUSE-10 (CA)

Applicable

Clause 10CA Materials covered under this clause	Nearest Materials (other than cement, reinforcement bars and structural steel) for which all India Wholesale Price Index to be followed	Base Price	Period
1. Cement (PPC)	-----		
2. Reinforcement bars TMT Fe-500 (Primary Manufacture)	-----		
3. Reinforcement bars TMT Fe-500 (Secondary Manufacture)	-----		
4. Structural Steel	-----		

CLAUSE 10 (CC)

Whether Clause 10 (CC) shall be applicable Not Applicable

CLAUSE 11

Specification to be followed for execution of work CPWD Specification 2009 Vol. I to II with up to date correction slips for Civil work.

CLAUSE 12

- 12.2 & 12.3 Deviation limit beyond which clause 12.2 & 12.3 shall apply for all items other than foundation items as mentioned in clause 12.5 30%
- 12.5 Deviation limit beyond which Clause 12.2 & 12.3 shall apply For foundation work 100%

CLAUSE 16

Competent Authority for deciding reduced rates.

Registrar,
Central University of Rajasthan

CLAUSE 18

List of mandatory machinery, tools & plants to be deployed by the contractor at site.
As per requirement

CLAUSE 25

Constitution of Dispute Redressal Committee (DRC)	Competent Authority to appoint DRC
DRC shall constitute one Chairman and two members	Vice Chancellor Central University of Rajasthan

CLAUSE 42

- (i) (a) Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates *DSR 2018*
- (ii) Variations permissible on theoretical quantities
- (a) Cement for works estimated cost put to tender not more than Rs. 5 Lakhs 3 % plus/minus
For works with estimated cost put to tender more than Rs. 5 Lakhs 2 % plus/minus
- (b) Bitumen for all works 2.5% plus only & nil on minus side
- (c) Steel reinforcement and structural steel section for each diameter, section and category 2% plus/minus
- (d) All other materials Nil

RECOVERY RATES FOR QUANTITY BEYOND PERMISSIBLE VARIATION

S.No.	Description of item	Rate in figures and words at which recovery shall be made from the contractor	
		Excess beyond permissible variation	Less use beyond the permissible variation
1.	Cement	Nil	Not Allowed
2.	Steel reinforcement TMT-500 (Primary Manufacture)	Nil	Not Allowed
3.	Steel reinforcement TMT-500 (Secondary Manufacture)	Nil	Not Allowed
4.	Structure Steel	Nil	Not Allowed

GENERAL RULES & DIRECTIONS

General Rules & Directions

1. All work proposed for execution by contract will be notified in a form of invitation to tender pasted in public places and signed by the officer inviting tender.
This form will state the work to be carried out, as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited with the application, and the amount of the security deposit and performance guarantee to be deposited by the successful tenderer and the percentage, if any, to be deducted from bills. Copies of the specifications, designs and drawings and any other documents required in connection with the work signed for the purpose of identification by the officer inviting tender shall also be open for inspection by the contractor at the office of officer inviting tender during office hours.
2. In the event of the tender being submitted by a firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power-of attorney authorising him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act, 1952.
3. Receipts for payment made on account of work, when executed by a firm, must also be signed by all the partners, except where contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm.

Applicable for Percentage Rate – Tender only (CPWD – 7)

1. In case of Percentage Rate Tenders only percentage quoted shall be considered. Any tender containing item rates is liable to be rejected. Percentage quoted by the contractor in percentage rate tender shall be accurately filled in figures and words, so that there is no discrepancy.
2. tender containing item rates is liable to be rejected. Percentage quoted by the contractor. In Percentage Rate Tender, the tenderer shall quote percentage below/above (in figures as well as in words) at which he will be willing to execute the work. He shall also work out the total amount of his offer and the same should be written in figures as well as in words in such a way that no interpolation is possible. In case of figures, the word ‘Rs.’ should be written before the figure of rupees and word ‘P’ after the decimal figures, e.g. ‘Rs. 2.15P and in case of words, the word ‘Rupees’ should precede and the word ‘Paisa’ should be written at the end.

In the case of any tender where unit rate of any item/items appear unrealistic, such tender will be considered as unbalanced and in

case the tenderer is unable to provide satisfactory explanation, such a tender is liable to be disqualified and rejected.

Applicable for
percentage
Rate Tender only
(CPWD – 7)

1. In Percentage Rate Tender, the tenderer shall quote percentage below/above (in figures as well as in words) at which he will be willing to execute the work. He shall also work out the total amount of his offer and the same should be written in figures as well as in words in such a way that no interpolation is possible. In case of figures, the word 'Rs.' should be written before the figure of rupees and word 'P' after the decimal figures, e.g. 'Rs. 2.15P' and in case of words, the word 'Rupees' should precede and the word 'Paisa' should be written at the end.
- 2(i) The Contractor whose tender is accepted, will be required to furnish performance guarantee of 5% (Five Percent) of the tendered 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.
- (ii) The contractor whose tender is accepted will also be required to furnish by way of Security Deposit for the fulfillment of his contract, an amount equal to 2.5% of the tendered value of the work. The Security deposit will be collected by deductions from the running bills as well as final bill of the contractor at the rates mentioned above. The Security amount will also be accepted in cash or in the shape of Government Securities. Fixed Deposit Receipt of a Scheduled Bank or State Bank of India will also be accepted for this purpose provided confirmatory advice is enclosed.
3. On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Engineer-in-Charge shall be communicated in writing to the Engineer-in-charge.
4. The tender for the work shall not be witnessed by a contractor or contractors who himself/ themselves has / have tendered or who may and has / have tendered for the same work. Failure to observe this condition would render, tenders of the contractors tendering, as well as witnessing the tender, liable to summary rejection.
5. The tender for composite work includes in addition to building

work all other works such as sanitary and water supply installations drainage installation, electrical work, horticulture work, roads and paths etc. The tenderer apart from being a registered contractor (B&R) of appropriate class, must associate himself with agencies of appropriate class which are eligible to tender for sanitary and water supply drainage, electrical and horticulture works in the composite tender.

6. The contractor shall comply with the provisions of the Apprentices Act 1961, and the rules and orders issued thereunder from time to time. if he fails to do so, his failure will be a breach of the contract and the Registrar / Executive Engineer may in his discretion without prejudice to any other right or remedy available in law cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.

ADDITIONAL CONDITIONS

1. Unless otherwise provided in the schedule of quantities the rates tendered by the contractor shall be all inclusive and shall apply to all heights lifts, leads and depths of the building and nothing extra shall be payable on this account, payment for centering, shuttering however, if required to be done for height greater than 3.5M shall be admissible at rate arrived at in accordance with clause 12 of the agreement, if not already specified.
2. The contractor shall make his own arrangements for obtaining electric connection (if required) and make necessary payments directly to the department concerned.
3. Other agencies doing works related to this projects will also simultaneously execute the work and the contractor shall provide necessary facilities for the same. The contractor shall leave such necessary holes opening etc. for burying in the work pipes, cables, conduits, clamps , boxes and hooks for fan clamps etc. as may be required for other agencies. Conduits for electrical wiring /cables will be laid in a way that they leave enough space for concreting and do not adversely effect the structural members. Nothing extra over the agreement rates shall be paid for the same.
5.
 - (a) The building work will be carried out in the manner complying in all respects with the requirements of relevant bye laws of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer in charge and nothing extra will be paid on this account.
 - (b) The contractor shall comply with proper and legal orders and directions of the local or public authority or municipality and a tenderer by their rule and regulations and pay all fees and charges which he may be liable.
6. The work shall be carried out in accordance with the Architectural drawings and structural drawings, to be issued form 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, nomenclature of items and specifications etc. issued for the work and satisfy himself that the information available there from is complete and unambiguous. The figure and written dimension of the drawings shall be superceding the measurement by scale. The discrepancy, if any, shall be brought to the notice of the Engineer-in-charge 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.
7. The contractor shall bear all incidental charges for cartage, storage and safe custody of materials issued by department.
8. For the purpose of recording measurements and preparing running account bills, the abbreviated nomenclature indicated in the publications abbreviated nomenclature of item of DSR 1981 (bilingual) shall be accepted. The abbreviated nomenclature shall be taken to cover all the materials and operations as per the complete nomenclature of the relevant items in the agreement and other relevant specifications.
9. In the case of items of which abbreviated nomenclature is not available in the above cited publication and also in case of extra and substituted items of works for which abbreviated

nomenclature is not provided in the agreement, the full nomenclature of items shall be reproduced in the measurements books and bill forms for running account bill.

The full nomenclature of the items shall be adopted in preparing abstract of final bill in the measurement book and also in the bill form for final bill.

10. The contractor shall have to make approaches to the site, if so required and keep them in good condition for transportation of labour and materials as well as inspection of works by the Engineer in charge. Nothing extra shall be paid on this account.
11. No payment will be made to the contractor for damage caused by rains, or other natural calamities during the execution of the works and no such claim on this account will be entertained.
12. Various factory made materials shall be procured from reputed and approved manufacturers or their authorized dealers. List of such approved manufacturers is available at Annexure V. For the items / materials not appearing in the list the decision of Engineer in charge shall be final and binding.
13. Contractor shall have to execute a Guarantee Bond in respect of Water Proofing works as per Performa attached in this N.I.T. at Annexure II. He shall also have to execute guarantee bonds for water supply and sanitary installations work on the proforma available at Annexure I.
14. The construction joints shall be provided in predetermined locations only as decided by Engineer in charge. The cost of shuttering for these construction joints shall be included in item of Concrete work / RCC work and nothing extra shall be payable on this account to the contractor.
15. The gradation of fine sand to be used in plaster work, shall be strictly as per Table 3.1 (clause 3.1.3) of CPWD Specification 2009 Vol. - I conforming to IS 1542-1977. The plastered surface shall be fairly smooth without any undulation of any kind for applying paint/white wash.
15. No chase cutting/dismantling of plaster/RCC/CC shall be allowed, so contractor has to execute the electrical work accordingly.
16. The contractor shall take instruction from the Engineer in charge for stacking of materials at any place. No excavated earth or building material shall be stacked on areas where other buildings, roads, services or compound walls are to be constructed.
17. The material shall conform to the quality and make as per attached list in Annexure V. However for the items not appearing in the list preference shall be given to those articles which bear ISI certification marks. In case articles bearing ISI certification marks are not available the quality of sample brought by the Contractor shall be judged by the standard laid down in the relevant ISI specification/CPWD specification. All materials and articles brought by the contractor to the site for use shall conform to the samples approved, which shall be preserved till the completion of the work. However, such articles which bear ISI mark but stand banned by University will not be used. Notwithstanding the case of materials of "Preferred Make" as given in Annexure V, provisions of Clause 10A of the General Conditions of Contract for Central PWD works shall be applicable on the materials of "**Preferred Make**" also.

18. It must be ensure that all materials to be used in work bear BIS certification mark. In cases where BIS certification system is available for a particular material/product but not even a single producer has so far approached BIS for certification the material can be used subject to the condition that it should confirm to CPWD specification and relevant BIS codes. In such case written approval of the Technical sanctioning Authority may be obtained before use of such material in the work.
19. The final approval of the brand to be used shall be as per the direction of Engineer-in-Charge. The brand used shall be one of the brands in case specified in the list of **preferred make / materials** annexure-V.
20. In case of non availability of material of the brands specified in the list of approved materials an equivalent brand may be used after getting written approval of T/S Authority giving details to indicate that the brand proposed to be used is equivalent to the brands mentioned in the agreement.

24. Conditions for Cement

- 24.1 The contractor shall procure Portland Pozzolana Cement (conforming to IS : 1489 : Part – I) as required in the work, from manufacturers/supplier of cement, indicated in list of approved products annexure-V with the tender document. The tenderers may also submit a list of names of cement which they propose to use in the work. The tender accepting authority reserves right to accept or reject name(s) of cement which the tenderer proposes to use in the work. No change in the tendered rates will be accepted if the tender accepting authority does not accept the list of cement, given by the tenderer, fully or partially. The cement brought to the site for execution of work shall be in bags bearing name & ISI marking. Weight of cement in each bag shall be 50 kg. 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 if desire. In case the test results indicate that the cement arranged by the contractor does not conform to the relevant BIS codes, the same shall stand rejected and it shall be removed from the site by the contractor at his own cost within 7 days of written order from the Engineer-in-Charge to do so.
 - 24.2 The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10. The theoretical consumption of cement shall be worked out as per procedure prescribed in clause 42 and shall be governed by conditions laid therein. In case the cement consumption is less than theoretical consumption including variations, recovery at the rate so prescribed shall be made. In case of excess consumption no adjustment need to made.
 - 24.3 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.
 - 24.4 Damaged cement shall be removed from the site immediately by the contractor on receipt of a notice in written from Engineer-in-Charge. If he does not do so within 3 days of receipt of such notice, the Engineer-in-Charge shall get it removed at the cost of the contractor.
25. **CONDITIONS FOR STEEL IN RCC WORKS:-**
- 25.1 The contractor shall procure TMT bars of **500** grade from primary producers such as SAIL or TISCO or RINL as approved by Ministry of Steel. The TMT bars procured from primary producers shall conform to manufacture's specification.

In case of non-availability of steel from primary producers the NIT approving authority may permit use of TMT reinforcement bars procured from secondary producers. In such cases following action is to be followed :

- 25.1.1 The grade of the steel **TMT-500** grade to be procured as per BIS 1786-2008.
- 25.1.2 The secondary producers must have valid BIS licence to produce HSD confirming to IS 1786 : 2008. In addition to BIS licence, the secondary producer must have valid licence from either of the firms Tempcore, Thermex, Evcon Turbo & Turbo Quench to produce TMT Bars.
- 25.1.3 The TMT bars procured from secondary producers shall conform to the specifications as laid by Tempcore, Thermex, Evcon Turbo & Turbo Quench as the case may be.
- 25.1.4 TMT bars procured either from primary producers or secondary producers, the specification shall meet the provision of IS 1786 : 2008 pertaining to **TMT-500** grade of steel.
- 25.2 The contractor shall have to obtain vouchers and furnish test certificates to the Engineer-in-Charge in respect of all the lots of steel brought by him from approved suppliers to the site of work.
- 25.3 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 25.1.3, 25.1.4 & 25.2 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.
- 25.4 The steel reinforcement bars shall be brought to the site in bulk supply of 10 tonnes or more or as decided by the Engineer-in-Charge alongwith manufacturer test certificate for each lot.
- 25.5 The steel reinforcement bars 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 this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.
- 25.6 ~~For Checking nominal mass, tensile strength, bend test, re-bend test etc. specimens of sufficient length shall be cut from each size of the bar at random, and at frequency not less than specified below:~~

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

- 25.7 The contractor shall supply free of charge the steel required for testing including its transportation to testing laboratories. The cost of tests shall be borne by the contractor/Department in the manner indicated below:
- (i) By the contractor, if the results show that the steel does not conform to relevant BIS codes.
 - (ii) By the Department, if the results show that steel conforms to relevant BIS codes.
- 25.8 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 variations recovery at the rate so prescribed shall be made. In case of excess consumption no adjustment need to be made.
- 25.9 Steel brought to site and steel remaining unused shall not be removed from site without the written permission of the Engineer-in-Charge.
- 25.10 In case the contractor bring surplus quantity of steel the same after completion of the work will be removed from the site by the contractor at his own cost after approval of the Engineer-in- Charge.
- 25.11 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.
- 25.12 The standard sectional weights referred to as in Table 5.4 in para 5.3.4 in CPWD Specifications for works 2009, Vol.-I will be considered for conversion of length of various sizes of M.S. Bars, Tor Steel Bars and T.M.T. bars into Standard Weight.
- 25.13 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.
- 25.14 (a) If the Derived actual Weight as in sub-para (37.14) above is less than the Standard Weight as in Sub-para (37.13) above then the Derived Actual Weight shall be taken for payment.
- (b) If the Derived Actual Weight is found more than the Standard Weight, the Standard Weight as per in sub-para (37.13) 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.
26. If the work is carried out in more than one shift or during night, no claim on this account shall be entertained. The contractor has to take permission from the University authorities etc. if required for work during night hours. No claim / hindrance on this account shall be considered if work is not allowed during night time. The requisite supervision shall be made available by the department along with necessary issue of material under joint custody.
27. Installation of UPVC Windows shall be done by manufacturer and the window as well as installation must carry a manufacturing warranty for a period of 10 years against manufacturing defect and for leak proof installation. The contractor shall make window

opening with accuracy as required by manufacturer to fix up the windows.

28. PROGRAMME CHART

28.1 The Contractor shall prepare an integrated programme chart for the execution of work, showing clearly all activities from the start of work to completion, with details of manpower, material, equipment and machinery required for the fulfillment of the programme within the stipulated period or earlier and submit the same for approval to the Engineer-in-Charge within ten days of award of the contract failing which Rs. 500/- per day shall be recovered (non refundable) from the contractor till the date of actual submission.

28.2 The programme chart should include the following:

- a) Descriptive note explaining sequence of the various activities.
- b) Network (PERT / CPM).
- c) Programme for procurement of materials/equipments/labour by the contractor.

28.3 If at any time, it appears to the Engineer-in-Charge that the actual progress of work does not conform to the approved programme referred above, the contractor shall produce a revised programme showing the modifications to the approved programme to ensure completion of the work. The modified schedule of programme shall be approved by the Engineer-in-Charge, C.U. Raj, Bandersindri, Ajmer.

28.4 The submission for approval by the Engineer-in-Charge of such programme or the furnishing of such particulars shall not relieve the contractor of any of the 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.

29. ~~THIRD PARTY QUALITY CONTROL~~

~~Contractor shall cooperate with any third party quality control agency engaged by Department in the work.~~

30. Contractor should provide R.O. Plant sufficient for workers employed at site, his technical staff and site staff of department free of charge if required.

31. The contractor shall maintain (2 Nos.) desktop alongwith printer well equipped with internet connection at site of work if required.

32. Once the work is completed and the contractor shall be responsible to attend defect pointed out by Engineer- in-charge and then hand over.

33. Contractor should hand over the warranty of the specialized items to the department.

10 - ADDITIONAL SPECIFICATIONS

1.0 GENERAL

- 1.1 The work in general shall be executed as per the description of the item, specification attached, CPWD specifications 2009 Vol.-I & II.
 - 1.2 In case of any variation between different applicable specifications, the following order of precedence will be followed :
 - I. Nomenclature of item
 - II. Additional condition, Additional specification and Particular specifications attached with the tender document.
 - III. CPWD Specifications 2009 Vol.-I & II.
 - IV. Indian Standard Specifications of B.I.S.
 - V. Decision of Engineer in charge.
 - 1.3 The work shall be executed and measured as per metric units given in the schedule of quantities, drawings etc. (F.P.S. units) wherever indicated are for guidance only).
 - 1.4 The following modification to the above specifications and some additional specifications shall however apply.
 - (i) All stone / stone aggregate and stone ballast shall be of hard stone variety to be obtained from approved quarries (approximate lead 20 Km.) or any other source as approved by the Engineer in charge.
 - (ii) Sand to be used for cement concrete work, mortar for masonry from local available sand or stone dust (approximate lead 175 Km.) & for plaster work shall be of standard quality local available (approximate lead 175 Km.). Sand obtained from other sources shall be got approved from the Engineer in charge. The same shall consist of hard siliceous material. It shall be clean sand.
 - 1.5 Wherever any reference to any Indian Standard Specification occurs in the documents related to this contract, the same shall be inclusive of all amendments issued there to or revisions thereof, if any, upto the date of receipt of tenders.
 - 1.6 Unless otherwise specified in the schedule of quantities the rates for all items of the work shall be considered as inclusive of pumping out or bailing out water if required for which no extra payment will be made. This will include water encountered from any source, such as rains, floods subsoil water table being high due to any other cause whatsoever.
- 2.0 RCC work
- 2.1 In respect of projected balconies, projected slabs at roof level and projected verandah, the payment for the RCC work shall be made under the item of RCC slabs. The payment for centering and shuttering of such items shall similarly be paid under the item of centering and shuttering of RCC slab. Nothing extra shall be paid for the side shuttering at the edges of these projected balconies and projected verandahs. All the exposed edges shall however be finished as per specifications and nothing extra shall be paid for this.
 - 2.2 The contractor shall provide approved type of supports for maintaining the bars in position and ensuring required spacing and correct cover of concrete to reinforcement as called for in the drawings. Spacer block/cover blocks of required shape and size, M.S. chairs and spacer bars shall be used in order to ensure accurate positioning of reinforcement. Spacer blocks/cover blocks shall be cast well in advance with approved proprietary prepacked free flowing mortars (conbextra as manufactured by M/s Fosroc Chemicals India Ltd or approved equivalent) of high early strength. Blocks of polymer shall not be used as spacer blocks

unless specially approved by the Engineer-in-charge. Rate of item of steel reinforcement is inclusive of cost of such cover blocks.

3.0 FLOORING

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 samples of flooring, dado & skirting as per approved pattern shall be prepared & got approved from the Engineer-in-charge before execution of work.

4.0 WOOD WORK

4.1 The samples of species of timber to be used shall be got approved and deposited by the contractor with the EE before commencement of the work. The contractor shall produce cash vouchers and certificates from kiln seasoning or/and chemical treatment plants about the timber section to be used on the work having been kiln seasoned or/and chemically treated by them.

4.2 Factory made shutter as specified shall be obtained from factories as per list given in Annexure-V or from any other factory to be approved by the Engineer in charge. The contractor shall inform well in advance to the Engineer in charge the names and address of the factory from where the contractor intends to get the shutters manufactured. The contractor will place order for manufacture of shutters only after written approval of the Engineer in charge in this regard is given. The contractor is bound to attend to the decision of the Engineer in charge and recommend a name of another factory from the approved list in case the factory already proposed by the contractor is not found competent to manufacture quality shutters. Shutters will however be accepted only if they meet the specified tests. The contractor will also arrange stage wise inspection of the shutters at factory of the Engineer in charge or his authorised representative. Contractor will have no claim if the shutters brought at site are rejected by Engineer in charge in part or in full lot due to bad workmanship / quality even after inspection of factory. Such shutters will not be measured and paid and the contractor shall remove the same from the site of work within 7 days after the written instruction in this regard are issued by Engineer in charge or his authorised representative.

5.0 STEEL WORK

5.1 The rate of T- angle iron frame shall include the following.

- (a) M.S. sill/tie of 10mm dia bar welded to T-iron frames to keep the frames vertical in correct position. The sill / tie shall be embedded in floor concrete. No tie is necessary for window frames.
- (b) Each T – iron frame for doors shall have 4 Nos M.S. lugs 15x3mm, 10 cms long welded to each vertical member of the frame.
- (c) M.S. flat 6 x 25mm, 100mm long having threaded holes (No. of flats shall correspond to the no. of butt hinges to be fixed to door / window shutters) shall be welded at appropriate places at the back of the T-iron frames for fixing the required butt hinges to the frame with machine screws.

5.2 All welded structural steel work shall be tested for quality of weld as laid down in IS 822-1970 before actual erection if required.

6. WATER SUPPLY, SANITARY INSTALLATION

6.1 The SCI/CI pipes and GI pipes wherever necessary shall be fixed to RCC columns, beams etc. with rawl plugs and nothing extra shall be paid for this.

- 6.2 The contractor shall be responsible of the protection of the sanitary and water supply fittings and other fittings and fixtures against pilferage and breakage during the period of installation and thereafter until the site is handed over.
7. VARIATION IN CONSUMPTION OF MATERIALS
- 7.1 The variation in consumption of material shall be governed as per CPWD specification and clauses of the contract to the extent applicable. The following specific clauses shall govern the variation in consumption of pig lead.
- 7.2 The pig lead to be used in jointing 100mm, 75mm and 50 mm SCI/CI pipe joints in sanitary installations shall not be less than 0.98 kg, 0.88 kg and 0.77 kg per joint respectively.

The theoretical quantity of cement to be utilized in item of concrete involving use of single aggregate and mixed by volume batching shall be computed on the basis of the coefficient for cement to be used in different item of the work provided in DSR reducing each of the co-efficient by 5%. However, where the concrete is mixed by weight batching no such reduction shall be made from theoretical co-efficient given in DSR for concrete with crushed stone aggregate.

11 - PARTICULAR SPECIFICATION

1.0 R.C.C. Work

1.1 CENTERING AND SHUTTERING FOR RCC WORK

The concrete surface shall be free from honey combing, offsets, superfluous mortar, cement slurry and foreign matter. The form work shall be assembled in such a way as to facilitate removal of their parts in proper sequence without any damage to the exposed cement concrete surfaces and corners etc. The contractor shall keep skilled staff for special care and supervision to check the form work and concreting so that every member is made true to its size, shape, level and alignment so that it does not result in any deformation, snag, budge etc. The contractor shall also take suitable precautionary measure to prevent breaking and chipping of corners and edges of completed work until the building is handed over. The size of shuttering plates for slabs shall not be less than 0.6 m x 0.9 m in general. However, contractor has to provide tape to seal the joint properly to get smooth surface. Further shuttering shall be of such quality that there are no undulations and surfaces will be fairly even and no extra thick ceiling plaster shall be permitted to make the surface even.

1.2 R.C.C. work (Design Mix Concrete or Nominal mix concrete as per requirement/ volume of work)

The RCC work shall be done with BMC Design Mix Concrete/ or as per requirement/ as per approval of Engineer-in-charge unless otherwise specified in the nomenclature of items, wherever letter M has been indicated, the same shall imply for the Design Mix Concrete. For the nominal mix in RCC, CPWD specification shall be followed. The Design Mix Concrete will be designed based on the principles given in IS : 456, 10262 and SP 23. The contractor shall design mixes for each class of concrete indicating that the concrete ingredients and proportions will result in concrete mix meeting requirements specified. The cement shall be actually weighed as presumption of each bag having 50 kg shall not be allowed. In case of use of admixture, the mix shall be designed with these ingredients as well. The specification mentioned herein below shall be followed for Design Mix Concrete.

1.2.1 Ingredients :-

Coarse Aggregate: - As per CPWD Specifications

Fine Aggregate: - As per CPWD Specifications.

Water: - As per requirements laid down in IS 456-2000 and CPWD specifications.

Cement: Cement arranged by the contractor will be PPC (in bags) conforming to IS : 1489 : Part-I, If for any reasons, cement other than that specified in this para, for example OPC of grade 43 or higher grade is brought to site by contractor, the issues like payments rate as well as the quantity to be used in the design mix concrete will remain unchanged.

Admixture: - Admixtures shall not be used without approval of Engineer-in-Charge. Wherever required, admixtures of approved quality shall be mixed with concrete to achieve the desired workability within specified water cement ratio. The admixture shall conform to IS : 9103. The chloride content in the admixture shall satisfy the requirement of BS : 5075. The total amount of chlorides in the admixture mixed concrete shall also satisfy the requirements of IS : 456-2000

The contractor shall not be paid anything extra for admixture required for achieving desired workability without any change in specified water cement ratio for RCC / CC work.

- 1.2.1.1 The Concrete mix will be designed for minimum workability as specified in para 7 of IS –456-2000

Workability of Concrete (Unless otherwise specified elsewhere or as decided by Engineer in charge.

<i>Placing Conditions</i>	Degree of Workability	Slump (mm)
(1)	(2)	(3)
Lightly reinforced sections in slabs, beams, walls, columns	Low	25-75
Heavily reinforced section in slabs, beams, walls, columns.	Medium	50-100
Pumped concrete	Medium	75-100

The recommended values of slump for various members are given below:-

- (i) Columns 25 – 35 mm (ii) Beams 30 – 40 mm (iii) Slabs 30- 50 mm

*** Note : The Cement content means PP Cement including fly ash.**

- 1.2.2 The contractor shall submit the mix design report 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 mix design is approved.

- 1.2.3 In case of change of source or characteristic properties of the ingredients used in the concrete mix during the work, a revised laboratory mix design report conducted at laboratory established at site shall be submitted by the contractor as per the direction of the Engineer in charge.

1.2.5 STANDARD FOR ACCEPTANCE

Standard of acceptance shall be same as specified in clause 16 of IS 456-2000.

- 1.2.6 In order to keep the floor finish as per architectural drawings and to provide required thickness of the flooring as per specification, the level of top surface of RCC shall be accordingly adjusted at the time of its centering, shuttering and casting for which nothing extra shall be paid to the contractor.

1.2.7 Measurement - As per CPWD specifications.

1.2.8 Tolerances - As per CPWD specifications

1.2.9 Rate :-

- 1.2.9.1 The rate includes the cost of materials and labour involved in all the operations described above except for the cost of centering, shuttering and reinforcement, which will be paid separately.

- 1.2.9.2 In case of actual average compressive , strength being less than specified strength which shall be governed by para ‘ Standard of Acceptance’ as above the rate payable shall be worked out accordingly on prorata basis.

1.2.09.3 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 contractors. 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 para 5.4.13 of Revised CPWD specification 2009, Vol.-I.

2.0 WATER PROOFING TREATMENT

2.1 Treatment for roof surface with integral cement based compound (Brick-coba). This item shall be got executed from any of the specialized agency to be got approved from Engineer-in-Charge.

2.1.1 The brick bats shall be from over burnt bricks. The proprietary water proofing compound shall bear I.S.I. mark and shall conform to IS: 2645. Before execution of work water proofing compound has to be brought to and a certificate of its conforming to IS code should be produced. The proprietary water proofing compound shall be added at the rate recommended by the specialist firms but not exceeding 3 percent by weight of cement. The Engineer in charge reserve the right to collect the random sample from material brought at site and get it tested from laboratory of his choice. The material which does not conform to the specification shall have to be removed forthwith by the contractor.

2.1.2 The finished surface after water proofing treatment shall have minimum slope of 1 in 80. At no point shall the thickness of water proofing treatment be less than 65mm.

2.1.3 While treatment of roof surface is done, it shall be ensured that the outlet drain pipes have been fixed and mouths at the entrance have been eased and rounded off properly for easy flow of water.

2.1.4 The surface where the water proofing is to be done shall be thoroughly cleaned with wire brushes. All loose scales mortar splashes etc. shall be removed and dusted off. The surface shall be treated with neat cement slurry admixed with proprietary water proof compound to penetrate into crevices and fill up all the pores in the surface. This cement slurry shall be applied at the junction of parapet and terrace slab including the vertical face of the parapet.

2.1.5 After the slurry coat is laid, layer of over burnt brick bats shall be laid in cement mortar of mix as specified by specialist firm but not leaner than 1:5 (1 cement : 5 coarse sand) admixed with proprietary water proofing compound to required gradient and joints filled to half the depth. The bricks bat layer shall be rounded at the junction with the parapet and tapered towards top for a height of 300mm. Curing of this layer shall be done for 2 days.

2.1.6 After curing the surfaces shall be applied with a coat of cement slurry admixed with proprietary water proofing compound.

2.1.7 Joints of bricks bat layer shall be filled fully with cement mortar of mix as specified by the specialist firm but not leaner than 1:5 (1 cement : 5 coarse sand) admixed with proprietary water proofing compound and finally top finished with average 20 mm thick layers of cement mortar 1:4 (1 cement : 4 coarse sand) and finished smooth with cement slurry mixed with proprietary water proofing compound. The finished surface shall have marking of 300x300 mm false squares to give the appearance of tiles.

2.1.8 Curing of water proofing treatment shall be done for a minimum period of two weeks by flooding the water by making kiaries etc.

2.1.9 MEASUREMENTS : The measurements shall be taken for plan area of terrace only. Length and breadth shall be measured correct to one centimeter and area shall be worked out to nearest 0.01 sqm. No deduction in measurements shall be made for either opening or recesses for chimneys, stacks, roof lights and the like of areas upto 0.10 sqm nor anything extra shall be paid for forming such openings. For similar areas exceeding 0.10 sqm , deductions will be made in measurements for full openings and nothing extra shall be paid for making such opening.

2.1.10 Rates : The rate shall include the cost of all labour and materials involved in all the operations described above.

2.2 GUARANTEE BOND

Ten Years Guarantee bond in prescribed proforma attached at annexure-II herewith 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.

Five percent of the cost of water proofing work shall be retained as security deposit and the amount so withheld would be released after ten years from the date of completion of the entire work under the agreement, if the performance of the work done is found satisfactory. If any defect is noticed during the guarantee period, it shall be rectified by the contractor within seven 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.

However, the security deposit deducted may be released in full against bank guarantee of equivalent amount in favour of Engineer in charge, if so decided by the Engineer in charge.

The Security deposit against this item of work shall be in addition to the security deposit mentioned elsewhere in contract form.

3.0 SPECIFICATIONS FOR WATER SUPPLY, SEWERAGE AND DRAINAGE.

3.1 GENERAL

3.1.1 The scope of work comprises supply, laying, installation, commissioning and testing of water supply, sewerage and drainage works including sanitary fixtures and fittings. These works shall be executed as per the specifications of items attached and CPWD specifications 2009, Volume – II.

3.1.2 All the works shall be completely concealed either within shafts or chases or in fills and dropped ceilings, unless specifically shown in drawings or required otherwise.

3.1.3 All the works shall be adequate protected against corrosion, so that the whole work is free from damage throughout.

3.1.4 The contractor shall be responsible for coordinating the work with works of other trades sufficiently ahead of time to avoid unnecessary hold-ups. Hangers, sleeves, recesses etc shall be left in time as the work proceeds whether or not these are shown in drawings.

3.1.5 The contractor shall submit as directed by the Engineer-in-charge, samples manufacture's drawings, equipment characteristics and capacity data etc. of all the equipment, accessories, devices etc. that he proposes to use in the installation to the Engineer-in-charge for approval.

- 3.1.6 Before the work is handed over, the contractor shall clean all fixture removing all plaster, stickers, rust stains and other foreign matter, leaving every part in acceptable condition and ready for use to the satisfaction of the Engineer-in-charge.
- 3.1.7 All sanitary wares and fittings shall conform to IS standards. The contractor shall submit samples of all fittings and fixtures proposed to be used to the Engineer-in-charge for his approval. The approved samples shall remain with the Engineer-in-charge till the completion of the work.
- 3.1.8 All the workmanship shall conform to Indian Standard Codes of practice. The fixing and finishing shall be neat true to level and in plumb. Manufacturer's instruction shall be followed closely regarding installation and commissioning.
- 3.1.9 All fixtures shall be protected throughout the progress of the work from damage. Special care shall be taken to prevent damage and scratching of the fittings. Tool marks on exposed fixtures shall be removed with hot water only at the final completion of work.
- 3.1.10 All fixtures and accessories shall be fixed in accordance with a set pattern matching the tiles or interior finish as per architectural requirements. Wherever necessary the fittings centered to dimensions and pattern desired.

3.2 INSPECTION AND TESTING

- 3.2.1 Inspection and testing of water supply installations shall be carried out as per Section 1, Part IX of National Building Code of India 2005 with upto date amendments.
- 3.2.2 Inspection and testing of sewerage and drainage installations shall be carried out as per Section 2, Part IX of National Building Code of India 2005 with upto date amendments.

3.3 GUARANTEE BOND

Ten years guarantee bond in prescribed proforma attached at Annexure I herewith shall be submitted by the contractor which shall also be signed by both the specialist agency and the contractor to meet their liability / liabilities under the guarantee bond. However, the sole responsibility shall rest with the building contractor.

4.0 ROAD WORK

Road work shall conform to CPWD specification 2009, Volume II, in case the same is not available in CPWD specification or if required as per item, the MOST specifications for roads and bridges 2001 shall be followed.

5.0 WINDOWS

Ten years guarantee bond in prescribed proforma attached at Annexure I herewith shall be submitted by the contractor which shall also be signed by both the specialist agency i.e. manufacturer and the contractor to meet their liability / liabilities under the guarantee bond. However, the sole responsibility shall rest with the building contractor.

5% (Five percent) of the cost of UPVC windows i/c Glass and fixtures shall be retained as

security deposit and the amount so withheld would be released after ten years from the date of completion of the entire work under the agreement, if the performance of the work done is found satisfactory, if any defects like leakage and manufacturing defects etc. is noticed during the guarantee period, it shall be rectified by the contractor within seven days of the 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 the contractor.

However, the security deposit deducted may be released in full against bank guarantee of equivalent amount in favour of Engineer in charge, if so decided by the Engineer in charge.

The Security deposit against this item of work shall be in addition to the security deposit mentioned elsewhere in contract form.

6.0 INSULATION BY GLASS WOOL AND XPS BOARD

Ten years guarantee bond in prescribed proforma attached at Annexure I herewith shall be submitted by the contractor which shall also be signed by both the specialist agency i.e. manufacturer and the contractor to meet their liability / liabilities under the guarantee bond. However, the sole responsibility shall rest with the building contractor.

5% (Five percent) of the cost of insulation by glass wool and XPS Board shall be retained as security deposit and the amount so withheld would be released after ten years from the date of completion of the entire work under the agreement, if the performance of the work done is found satisfactory, if any defects like leakage and manufacturing defects etc. is noticed during the guarantee period, it shall be rectified by the contractor within seven days of the 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 the contractor.

However, the security deposit deducted may be released in full against bank guarantee of equivalent amount in favour of Engineer in charge, if so decided by the Engineer in charge.

The Security deposit against this item of work shall be in addition to the security deposit mentioned elsewhere in contract form.

11(A) -SPECIFICATION OF ALUMINUM WORK

Aluminum work shall be got executed from specialized agency. The specialized agency for the aluminum work shall be got approved from the Engineer - in - Charge, well before actual commencement of the item of work. Necessary performance certificates in respect of agencies proposed to be engaged shall be submitted 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.

Specifications for Aluminum Door, Window, Ventilator

- 1 : Extent and Intent:
The work shall be carried out through an approved specialist contractor who shall furnish all materials, labour, accessories equipment tool & plant, incidental. Required for providing and installing anodised aluminum door, windows, claddings, louvers and other items as called for on the drawings. The drawings and specifications cover the major requirement only. The supplying of additional fastenings, accessory features and mentioned specifically herein but which are necessary to make a complete installation shall be a part of the contract.
- 2 : General:
Aluminum doors, windows etc. shall be of sizes, section detail as shown on the drawings. The details shown on the drawings indicate generally the sizes of the components parts and general standards. These may be varied slightly to suit the standards adopted by the manufacture. Before proceeding with any manufacturing, the contractor shall prepare and submit complete manufacturing and installation drawings for approval of Engineer-in-Charge and no work shall be performed until the approval of these drawings is obtained.
- 3 : Shop Drawings :
The contractor shall submit the shop drawings of doors, windows louvers cladding and other aluminum work, based on architectural drawings to Engineer-in-charge for his approval. The drawings shall show full size sections of door, window 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.
- 4 : Samples :
Samples of doors, windows, louvers etc. shall be fabricated assembled and submitted to the Engineer-in-Charge for his approval. They shall be of sizes, types etc. as decided by Engineer-in-Charge. All samples shall be provided the cost of the contractor.
- 5 : Sections :
Aluminum doors and windows shall be fabricated from extruded section of profiles as detailed on drawings. The sections shall be extruded by the manufacturers approved by the Engineer-in-Charge. The aluminum extruded section shall conform to IS designation 63400-WP(HV9WP old designation) with chemical composition and technical properties as per IS : 733 and 1285. The permissible dimensional tolerance of the extruded sections shall be such as not to impair the proper and smooth function / operation and appearance of doors and windows.

- 6 : Fabrications :
Doors, window etc. shall be fabricated to sizes as shown at factory and shall be of section, sizes combinations and details as shown in the Architectural drawings, all doors, windows etc. shall have mechanical joints. The joints shall be designed to withstand a wind load of 150 kgs. per sqm. the design shall also ensure that the maximum deflection of any member shall be accurately machined and fitted to form hairline joints prior to assembly. The joint and accessories such as cleats brackets, etc. shall be of such materials as not to cause any bi-metallic 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, handing and installation. Adequate provision shall be made in the door and windows members for anchoring to support and fixing of hardware and other fixture as approved by the Engineer-in-Charge.
- 7 : Anodising :
All aluminum sections shall be anodized as per IS : 7088 and to required colour as specified in the item as per IS : 1868 grading, after cutting the members to requisite sizes. Anodising shall be to the specified grade with minimum average thickness of 15 microns when measured as per IS : 6012. The anodic coating shall be properly sealed by steams or by boiling in deionized water or cold sealing process as per IS : 1868 / IS : 6057. Polythene tape protection shall be applied on the anodized sections 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 shall be borne by the contractor.
- 8 Powder Coating:
The powder used for powder coating shall be polyster powder made by Berger or Jenson& Nicholision or equivalent. The thickness of powder coating shall not be less than 50 micron at any point measured with micrometer.
- 9 : Protection of Finish:
All aluminum members shall be wrapped with approved self-adhesive non-staining PVC tapes.
- 10 : Handling and Stacking:
- 10.1 Fabricated materials shall be carted 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 materials at site, they 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.
- 10.2 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. Unit may be serial numbered and identified as how to be assembled in their final location of situation so warrants.
- 10.3 Where aluminum comes into contact with masonry brick work / concrete / plaster or dissimilar metals, it shall be coated with approved insulation lacquer paint or plastic

tape to ensure that electro chemical corrosion is avoided. Insulation materials shall be trimmed off to clear flush line on completion.

10.4 Silicon Sealant :

The peripheral gaps between plastered faces / RCC and aluminum sections shall be sealed both from inside and outside to make the windows watertight. Gaps upto 10mm between the peripheral aluminum member and masonry / RCC / Stone shall be sealed by inserting. Backer Rod manufactured by HT TROPLAST or Supreme Industries and by application of weather silicon / sealant of DOW corning / GE silicon make.

10.5 The contractor shall be responsible for assembling composite, bedding set straight plumb, level and for their satisfactory operation after fixing is complete.

11 : Installation :

11.1 Just prior to installation the doors, windows etc. shall be uncrated 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 electrical drill.

11.2 The doors windows assembled as shown on drawings shall be placed in correct final position in this 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 then the opening and laid aside. Neat holes with parattle 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 shall. The frame shall then be placed in final position. In the opening and anchored to the support through cadmium plated machine screws of required sized 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 meeting points of glazing bars and frames.

11.3 : Neoprene Gaskets :

The E.P.D.M. gasket of suitable profile as manufactured by HANU INDUSTRIES, ANNAND LESCUYER make shall be provided at all required positions to make the glazing airtight. The contractor shall provide and install 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 submit samples of the gaskets for approval and procure after approval only.

11.4 : Fittings :

The contractor shall cut the floor properly with stone cutting machine to exact size and shape. The spindle of suitable length to accommodate the floor finish shall be used. The contractor shall give the guarantee duly supported by the company for proper functioning of floor springs at least for 10 years.

Hinges, stays handles, tower bolts, locks and other fittings shall be of quality and manufacturer as approved by the Engineer – in – Charge.

- 12 : Manufacture's Attendances :
The manufacture immediately proper 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 (B) SPECIFICATION FOR RANDOM RUBBLE MASONRY

- 1 Scope : This specification covers materials joints, laying and mode of measurement of Random Rubble Masonry.
- 2 Materials : Stones: The stone shall be the type specified such as granite, trap, limestone, sand stone, quartzitic etc. and shall be obtained from the quarries, approved by the Engineer in charge. Stone shall be hard, sound durable and free from weatering decay and defects like cavities, cracks , flaws, sand holes, injurious viens, patches of loose or soft material and other similar defects that may adversely affect its strength and appearance. As far as possible. Stones shall be of uniform colour, quality or texture . Generally stone shall not contain crypst crystalline silica or chart, mica and other deleterious materials like iron-oxide organic impurities etc. Stone with round surfaces shall be not be used.

The compressive strength of common types of stones shall be as per Table I and the percentage of water absorption shall generally not exceed 5% for stones other than specified in Table-I for literate this percentage is 12%.

Table-I

Type of stone	Maximum absorption percentage weight	Water by	Minimum compressive strength Kg/Sq cm
Granite	0.50		1000
Basalt	0.50		400
Lime Stone (Slab & Tiles)	0.15		200
Sand Stone (Slab & Tiles)	2.50		300
Marble	0.40		500
Quartzite	0.40		800
Laterite (Block)	12.00		35

Note 1 : Test for compressive strength shall be carried

out as laid down in IS: 1121 (Part-I)-1974

Note : Test for water absorption shall be carried out as laid down in IS : 1121-1974

- (a) Dressing : The stone shall be merely knocked off at the sharp and irregular corners, edges and wherever necessary for lifting well into the work.

No bushing exceeding 20mm shall be allowed on the face. The quoins shall be neatly dressed to form the required angle (i.e. at jambs and corners).

- (i) Bond Stone : The stones shall not be less than 400 sq.cm in cross sectional area at any point and shall run right through the for wall upto 60 cms and in case the wall thickness exceeds 60 cms a line of two or more bond stone shall be laid from face to back overlapping each other by 15cms minimum, the length of such bond stones shall be at least 50cms.

- (ii) Face stones : At least 25% stone shall be headers tailing into the work at least $\frac{2}{3}$ rd the thickness of wall or full thickness of wall for walls 30 cms and less in thickness. Such stones shall be not be less than 200 sq.cms in cross section.

- (iii) Hearting and backing : Where hearting can accommodate a fair proportion of the stones used in the hearting shall be of large size 25% of them shall exceed 0.01 cum. in content.

- (iv) Quoins : The quoins shall be at least 30 cms in average length and 0.01cum in content and laid alternately as headers and stretchers, out of then stone at course not exceeding 1 meter centre to centre , shall be provide with a minimum length of 50cms and cross-sections 200 sq.cm (Size of bond specified above) on each exposed face.

- (v) Jamb Stones : The jambs shall be made with stones specified for quoins except that the stone which were required to be provided at 1 metre centre to centre on both the exposed faces shall here be provided only on the jamb and the length shall be equal to the thickness of the wall for wall upto 60cms and a line of headers shall be provided for walls thicker than 60 cms as specified for bond.

3 Courses : The masonry shall be carried out in regular courses of height not exceeding 50 cms and masonry on any day will not be raised more than 60 cms in height when using mortars having compressive strength less than 20 kg/sq.cm at 28 days and 100 cms when using mortars

exceeding this strength.

No attempt shall be made to level up the masonry at each courses by the use of thin stones.

- 4 Thickness of Joints : The Joints shall not exceed 30mm at any point on the face. Clips of the stones and spalls shall be wedged into the face beds and joint to avoid excessive bed and joint thickness.
- 5 Laying : Stones shall be laid on their natural bed and shall be solidly bedded full in mortar with close joints, chips of stone spalls be wedged into the work wherever necessary. No dry work or hollow spaces shall be allowed and every stone whether large or small shall be carefully selected to fit snugly the intersties between the large stones. Masonry shall be built breaking joints in all the three directions. Bone stones and headers shall be properly laid into the work and shall be marked by the contractor with white lead paint. The bond stones shall be provided at the rate of two bond stones per square metre of face area.
- 6 Raking out joints : All the joints on the faces to be pointed or plastered shall be racked out with racking tool to a depth of 20mm while the mortar is still green.
- 7 Mortar : The mortar used for joining shall be as specified.
- 8 Scaffolding : Single scaffolding having one set of vertical supports shall be sound and strong, tied together by horizontal pieces, over which the scaffolding planks shall be fixed. The inner end of the horizontal scaffolding member may rest in a hole provided in the masonry. Such holes however, shall not be allowed in pillars under one metre in width or near the skew back of arches. The holes left in masonry work for supporting scaffolding shall be filled and made good with cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 Stone aggregate 20 mm nominal size).
- 9 Protection : Green work shall be protected from rain by suitable covering. The work shall also be suitable protected from damage, mortar dropping and rain during construction.
- 10 Curing : Masonry work in cement or composite mortar shall be kept constantly moist on all faces for a minimum period of seven days. In case of masonry with fat lime mortar curing shall for at least seven days thereafter.
- 11 Measurement : (a) The work shall be measured by volume and the unit shall be cubic metres.

- (b) Walling curved on plan to mean radius not exceeding 6 m shall be measured separately inclusive of all cuttings waste and templates. Walling curved on plan to mean radius exceeding 6m shall be included with the general walling and shall be measured net only.
- (c) No deductions or additions on any account shall be made for :-
 - (i) Opening upto 500 sq.cm. in cross section (in calculating this area the size of the openings include any separate lintel or still but not extra width of rebated reveals if any).
 - (ii) Ends of dissimilar materials (i.e. joints rafters, girders, purlins, trusses etc.) upto 500 sq.cm. in cross section.
 - (iii) Bearings of chajjas, slabs, steps, shelves etc. when the bearings are not paid for the respective items.

- 12 Rate :
- The rate shall include the cost of materials and labour required for all the operations described above and shall include the following :
- (a) Ranking out joints for plastering or pointing done as a separate item, or finishing flush as the work proceeds.
 - (b) Preparing tops and sides of existing walls for raising and extending.
 - (c) Rough cutting and waste forming gables cores, skew backs or spandrels of arches, splays at eaves and all rough cutting in the body of walling unless otherwise specified.
 - (d) Bond stones or cement concrete bond blocks.
 - (e) Leading and making holes for pipes etc.
 - (f) Bedding and pointing wall plates, lintels, sills etc. in or on walls, bedding roof tiles and corrugates sheets in or on walls.
 - (g) Building in ends of joints, beams, lintels etc.

11 (C) SPECIFICATION FOR COURSED RUBBLE FACING MASONRY

- 1 Scope:** This specification covers materials, joints, laying and mode of measurement of coursed rubble facing masonry.
- 2. Materials:** As per specification for Random Rubble Masonry.
- 3. Size of Stones:**
 - (i) No dressed up stone shall be less in length and breadth than its heights. At least 25% stones shall be headers tailing into the work at least $\frac{2}{3}$ rd the thickness of wall or full thickness of wall for walls 30 cms and less in thickness. Such stones shall be evenly distributed over the entire face.
 - (ii) The quoins shall also be of the same height as the courses in which they occur and at least 50 cms. in length.
 - (iii) The jambs shall be made with stones specified for quoins except that the length of stone in alternate course shall be equal to the thickness of the wall for walls upto 60 cms.
- 4. Dressing of Stones:**
 - (a) Exposed face of stones shall be brought to near rectangular shape.
 - (b) The bushing on exposed surfaces of the stones on outer surface of external walls shall not exceed 2 cm.
 - (c) Stones required to be used on outer surface of external walls; shall be dressed before use in construction.
 - (d) The beds and joints of exposed of stones on outer surface of external walls other than quoins shall be hammer dressed at least for a distance of 4 cms from the face to be square with the exposed faces. No rough tooling or chisel drafting would be required. The depth of gap between the surfaces of sides and bed joints and straight edge held against them shall not be more than 10 mm.
 - (e)
 - (i) The beds and joints of quoins & jambs shall be hammer dressed for a distance of at least 8 cms. from the face to be square with the exposed faces and with each other. The depth of gap between the surfaces of sides & beds joints and straight edge held against them shall not be more than 10mm.
 - (ii) No rough tooling & chiesel drafting would be required on the edges of the quoin & jamb stones except on the corner edge defining the angle of the quoins & jambs. The corner edge defining the angle of the quoins & jambs shall have 2.5 cm wide two line chiesel drafting on both of the angle.
 - (f) Masonry work shall be executed from exposed (outer) side of wall.
- 5. Courses :** The stones shall be laid in courses not less than 15 cms. in height. All the courses shall be of the same height. When otherwise approved no course shall be thicker than any course below it. Only one stone be used in the height of the course.
- 6. Thickness of Joint :**
 - (i) The exposed face joints shall be more or less uniform in thickness and thickness of any joint shall not exceed 20 mm.

- (ii) Stones on outer side of wall shall be arranged suitably to stagger the vertical joints and overlapping of vertical joints shall be avoided.
- 7. Hearting and Interior Face :** The hearting and interior face shall be done in Random Rubble Masonry, By virtue of doing coursed rubble facing on external face of size of stones used and their dressing is carried out other than specified in the Random Rubble Masonry on internal face, even than nothing extra shall be paid over and above, the item of Random Rubble Masonry for internal face.
- 8 Laying :** Each stone shall be laid in the work on its natural bed. Stones shall be thoroughly wetted before laying when mortar used contains cement. The stones shall be laid full in mortar. The face work, hearting and interior face work shall be brought up simultaneously but no attempt should be made to level up the Random Rubble Masonry at each step by the use of chips. The masonry shall be carried truly in plumb and square. The courses shall be horizontal and joints vertical.
- 9 Raking out Joints :** As per specification for Random Rubble Masonry.
- 10 Mortar :** As per specification for Random Rubble Masonry.
- 11 Scaffolding :** As per specification for Random Rubble Masonry.
- 12 Protection :** As per specification for Random Rubble Masonry.
- 13 Curing :** As per specification for Random Rubble Masonry.
- 14 Measurement :** (a) The work shall be measured as RR Masonry for the full thickness of walling in cum and coursed stone facing masonry measured in square metres only over the exposed external face of the wall which includes the additional work of dressing was-tage of material and extra cost of facing stone, if necessary.
- (b) Walling curved on plan to mean radius not exceeding 6m shall be measured separately inclusive of all cuttings waste and templates. Walling curved on plan to mean radius exceeding 6m shall be included with the general walling and shall be measured net only.
- (c) No deductions or additions no any account shall be made for :
- (i) Opening upto 500 sq. cm. in cross section (In calculating this area the size of the openings include any separate lintel or still but not the extra width of rebated reveals if any.)
- (ii) Ends of dissimilar materials (i.e. joists, beams, rafters, girders, purlins, trusses etc.) upto 500 sq. cm. in cross section.
- 15 Rate :**
The rate shall include the cost of materials and labour required for all the operations described above.

12 - LIST OF PLANT / EQUIPMENT

12.1 The contractor is required to deploy necessary plant & equipment in required number to ensure quality construction as well as timely completion of work within the stipulated period of completion. A list of plant and equipment in addition to clause – 18 (page 30) which may be required during execution of work is given in Table-1 for general guidance. This is not mandatory. The intending tenderer should give a list of plant/equipment which he proposes to deploy at site for timely execution.

Table –1

S.No.	Plant / Equipment	Qty.
1.	Fully Automatic Computerised Concrete Batching and Mixing Plant as per the specifications with print outs for Cement, Aggregates, Admixtures, Concrete batching and Other items. Make Apollo, Universal, Caterpillar or equivalent. Capacity Minimum 30 cum/hr.	As per requirement
2.	Concrete Pumps (One Stationary and One Placer boom) of adequate capacity.	As per requirement
3.	Steel centering and shuttering.	As per requirement
4.	(a) Excavator Cum Loader. (b) Rock cutting machine sets	As per requirement
5.	Builders Hoist/Tower Crane	As per requirement
6.	Concrete mixer with hopper.	As per requirement
7.	Plate Vibrator.	As per requirement
8.	Needle Vibrator.	As per requirement
9.	Bar Bending Machine.	As per requirement
10.	Bar Cutting Machine.	As per requirement
11.	Stone Cutting Machine.	As per requirement
12.	Earth compactor (plate Type)	As per requirement
13.	Total Station	As per requirement
14.	Floor grinding machine	As per requirement
15.	Welding machine	As per requirement
16.	DG Set(63 KVA)	As per requirement
17.	Grinder, Drilling machine etc.	As per requirement
18.	Water Pump	As per requirement

13 - GUARANTEE BONDS/AFFIDAVIT FOR WORK

(Annexure I to IV)

Annexure –I

**GUARANTEE TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF DEFECTS
AFTER COMPLETION IN RESPECT OF WATER SUPPLY AND SANITARY
INSTALLATIONS, GLASS WOOL AND XPS BOARD**

The agreement made this _____ day of _____ two thousand and _____ between _____ S/o _____ (hereinafter called the GUARANTOR of the one part) and the Central University of Rajasthan (hereinafter called the Government of the other part).

WHEREAS THIS agreement is supplementary to a contract. (Herein after called the Contract) dated _____ and made between the GUARANTOR OF THE ONE PART AND the Government of the other part, whereby the Contractor, interalia, under look to render the work in the said contract recited structurally stable, with good workmanship and by use of sound materials. AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said work will remain structurally stable and guarantee against faulty workmanship , finishing, manufacturing defects of materials and leakages etc.

NOW THE GUARANTOR hereby guarantee that work executed by him will remain structurally stable, after the expiry of maintenance period prescribed in the contract for the minimum life of 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 defects shall be final.

During the 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 CURAJ the decision of the Engineer in charge will be final and binding on the parties.

IN WITNES WHERE OF those presents have been executed by the obligator _____ and _____ by for and on behalf of the Central University of Rajasthan on the day, month and year first above written.

Signed sealed and delivered by OBLIGATOR in presence of .:

1. _____
2. _____

SIGNED FOR AND ON BEHALF OF THE Central University of Rajasthan BY _____
_____ in the presence of:

1. _____
2. _____

**GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR FOR WATER
PROOFING TREATMENT FOR BASEMENT / TERRACE / TOILETS.**

The agreement made this _____ day of _____ two thousand and _____ between _____ S/o _____ (hereinafter called the GUARANTOR of the one part) and the Central University of Rajasthan (hereinafter called the Government of the other part).

WHEREAS THIS agreement is supplementary to a contract. (Herein after called the Contract) dated _____ and made between the GUARANTOR OF THE ONE PART AND the Government of the other part, whereby the contractor interalia, undertook to render the structures in the said contract the work in the said contract recited completely water and leak proof.

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

Provided that the guarantor will not be responsible for leakage caused by earthquake or structural defects.

The decision of the Engineer in charge with regard to cause of leakage shall be final.

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

That if the guarantor fails to execute the water proofing, or commits breach thereunder then the guarantor will indemnify the Principal and his successor against all loss, damage, cost of expenses or otherwise which may be incurred by him by reason of any 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 cost incurred by the CURAJ on the decision of the Engineer in charge will be final and binding on the parties.

IN WITNES WHEREOF those presents have been executed by the obligator _____ and _____ by for and on behalf of the Central University of Rajasthan on the day , month and year first above written.

Signed sealed and delivered by OBLIGATOR in presence of :

1. _____
2. _____

SIGNED FOR AND ON BEHALF OF THE Central University of Rajasthan BY _____
_____ in the presence of :

1. _____
2. _____

**FORM OF PERFORMANCE SECURITY (GUARANTEE)
BANK GUARANTEE BOND**

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

We _____ (hereinafter referred to as “as Bank) hereby
(Indicate the name of the Bank)
undertake to pay to the Government an amount not exceeding Rs. _____ (Rupees _____ only) on demand by Government .

2. We _____ do hereby undertake to pay the
(Indicate the name of the Bank).
amount due and payable under this Guarantee without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor (s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee . However , our liability under this guarantee shall be restricted to an amount not exceeding Rs . _____ (Rupees _____ only)
3. We the said bank 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 valid discharge of our liability for payment thereunder and the contractor (s) shall have no claim against us for making such payment.

4. We _____ further agree that the guarantee herein contained
(Indicate the name of Bank)
shall remain in full force and effect during the period that would be taken for the performance of the said agreement and it shall continue to be enforceable till all the dues of the Government under or by virtue of the said agreement have been fully paid, and its claims satisfied or discharged, or till Engineer-in- charge on behalf of the CURAJ, certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said contractor (s) accordingly discharges this guarantee.

5. We _____ further agree with the CURAJ that the
(Indicate the name of Bank)
CURAJ shall have the fullest liberty without our consent, and without affecting in any manner our obligations hereunder, to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor (s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the CURAJ against the said contractor (s) and to forebear or enforce any of the terms and conditions relating to the said agreement & we shall not be relieved from our liability by reasons of any such variation or extension being granted to the said contractor (s) or for any forbearance, act of omission on that part of the CURAJ 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. The 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
(Indicate the name of Bank)
guarantee except with the previous consent of the CURAJ in writing.
8. This guarantee shall be valid upto _____ unless extended on demand by CURAJ. Notwithstanding any thing mentioned above, our liability against this Guarantee is restricted to Rs. _____(Rs. _____ only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this Guarantee all our liabilities under the Guarantee shall stand discharged.

Dated the _____ day of _____ For _____

(Indicate the name of Bank)

AFFIDAVIT

I / We have submitted a bank guarantee for the work _____

(Name of work)

Agreement No. _____

Dated _____ from _____

(Name of the Bank with full address)

to the Executive Engineer _____ with a view

(Name of the Division)

to seek exemption from payment of performance guarantee in cash. This Bank guarantee expires on _____ I / We undertake to keep the validity of the bank guarantee intact by getting it extended from time to time at my / our own initiative upto a period of _____ months after the recorded date of completion of the work or as directed by the Engineer in charge.

I / We also indemnify the Government against any losses arising out of non-encasement of the bank guarantee if any.

(Deponent)

Signature of Contractor

Note : The affidavit is to be given by the Executants before a first class Magistrate.

14 - LIST OF PREFERRED MAKES FOR CIVIL WORKS

S.No.	Material Description	Approved Manufacturer / Brand Name
1.	Ceramic/glazed Tiles	Kajaria, Johnson, Orient, Asian of approved design, color and shade.
2.	TMT bars – Fe500	Major producers like SAIL, Rashtriya Ispat Nigam Ltd., TISCO.
3.	Cement (PPC)	Jaypee Cement, J.K. Cement, Shree Ultra Cement, Ultra Tech, A.C.C., Birla, Wonder Cement.
4.	White Cement	Birla White, J.K. White or equivalent
5.	Primers, paints (Low VOC) (i/c water proofing cement paint) etc.	Nerolac, Asian, Burger, ICI
6.	Putty	Birla, J.K. Putty or equivalent
7.	Wash Basin and WC PAN	Parryware, Hindware, Johnson, Cera
8.	Clear glass/PLTT Glass	Modi Guard, Saint Gobain, AIS
9.	GI pipes and accessories	Tata, Jindal, Prakash Surya, APL Apollo or equivalent make
10.	Centrifugally Cast Spun Pipes & fittings	Neco, Kapilansh, Electrosteel, SKF
11.	DI Pipes & fittings	Kapilansh, Kesoram, Electrosteel
12.	Brass / CP Brass fittings	Parryware, Esco (Jaquar) & Hindware, Ashirwad or equivalent make
13.	Aluminium sections (Anodising by approved anodising firm)	Hindalco, Jindal, Indian Aluminium Co.
14.	Water proofing compound	WEBER, FOSROC, PIDILITE, CICO
15.	Stainless steel sink	Neelkanth , Nirali, Jayna
16.	Particle board i/c laminated	Novapan, BHUTAN, ECO BOARD
17.	Plastic W.C. seat cover	Parryware, Hindware, Johnson
18.	Stoneware pipes & gully traps	Perfect, Taya or equivalent make
19.	Factory made panelled door shutters	As approved by Chief Project Manager
20.	Flush doors	Green, Century, Dura or as approved by Engineer-in-charge

21.	UPVC Window	Finesta, Aluplast or equivalent
22.	Z Section Windows & Ventilators	As approved by the Engineer-in-Charge
23.	RCC Pipes	As approved by the Engineer-in-Charge
24.	PVC tanks	Sintex or As approved by the Engineer-in-Charge
25.	Mirrors	Saint Gobain & Modi Guard, HNG
26.	CP waste & flush pipes	As approved by the Engineer-in-Charge
27.	PVC flushing cistern.	Parryware, Hindware, Johnson
28.	PE-AL-PE Pipes	As approved by Engineer-in-Charge
29.	Tile Fixer	As approved by Engineer-in-Charge
30.	Vitreous Floor Tile	Morbito, Asian, Johnson, Kajaria
31.	Roof insulation	Lloyd / BASF

List of Preferred Makes for structural glazing.

1)	Aluminium	:	Hindalco / Indal / Jindal
2)	Masking Tapes	:	Sun Control / Wonder Polymer
3)	S.S. Screws / Bolts	:	Kundan / Puja / Atul
4)	Dash Fasteners	:	Hilti / Fischer
5)	S.S. Friction Stay	:	Alu Alpha / Securistyle
6)	E.P.D.M. Gaskets	:	Hanu Industries / Roop
7)	Reflective Glass	:	Saint Gobain or equivalent
8)	Standards for tempering	:	DIN – 1249 – Part – 12 (1990)
9)	Weather Silicon	:	GE / Dow Corning
10)	Structural Sealant	:	GE / Dow Corning
11)	PVC Continuous fillet for periphery packing of Glazing :		Roop / Anand / Forex
12)	Backer Rod	:	Supreme Industries Ltd. or equivalent

Other fittings, fixtures & materials which are required as per design & shop drawings shall be as per approval of Engineer – in Charge.

SCHEDULES FOR ELECTRICAL WORKS

SCHEDULE ‘A’

Schedule of quantities

(a) Attached in Financial bid

SCHEDULE ‘B’

Schedule of materials to be issued to the contractor

S.No.	Description of item	Quantity	Rates 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
1	2	3	4

-----NIL-----

SCHEDULE ‘D’

Extra schedule for specific requirement/documents for the work, if any

-----NIL-----

SCHEDULE ‘E’ : Schedule of component of other materials, labour, POL etc., for price escalation.

CLAUSE 10CC : Not Applicable

CLAUSE 10C : Applicable

CLAUSE 10 CA : NA

SCHEDULE 'F' (FOR ELECTRICAL COMPONENT OF WORK)

1. Reference to General Conditions of contract: General Conditions of contract for Central PWD Works 2014 as amended upto date.

2. Name of work: **Construction of Laboratory platform/working bench in the department of Pharmacy at Central University of Rajasthan, Bandersindri, Distt. Ajmer, Rajasthan**

(i) The work is estimated to cost *Civil : Rs. 14,87,037/-*
Elect. : Rs 1,21,602/-
Total : Rs. 16,08,639/-

(ii) **Earnest Money** : *Rs. 33000/-*

(iii) Performance Guarantee : 5% (Five percent) of accepted tendered amount.

3. General Rules & Directions

(i) Officer inviting tender : Registrar, Central University of Rajasthan,
Bandarsindri

(ii) Maximum percentage for quantity of items of work to be executed beyond which rates are to determined in accordance with Clauses 12.2 & 12.3 As given under clause 12 of schedule 'F'.

4. Definition

(i) Engineer-in-charge Executive Engineer (E), CURaj.

(ii) Accepting Authority Registrar Central University of Rajasthan,
Bandar Sindri, Ajmer

(iii) Percentage on cost of materials and labour to cover all overhead and profits 15%

(iv) Standard schedule of Rates Market Rate and schedule of rates

(v) Department Estate Section, Central University of Rajasthan

(vi) Standard CPWD contract GCC for CPWD works 2014

CLAUSE 1

- (i) Time allowed for submission of Performance guarantee from date of issue of letter of acceptance. 20 Days
- (iii) Maximum allowable extension beyond the period as provided in (i) above . 7 Days

CLAUSE 2

Authority for fixing compensation under clause 2 Registrar
C.U. Raj
Bandarsindri, Ajmer

CLAUSE 2 A

Whether Clause 2 (A) shall be applicable No

CLAUSE 5

- (i) Number of days from the date of issue of letter of acceptance for reckoning date of start 15 days
- (ii) Time allowed for execution of work **02 (Two Months)**
- (iii) Extension of time Registrar
Central University of Rajasthan, *Bander Sindri, Ajmer.*
- (iv) Rescheduling of mile stones Registrar, Central University of Rajasthan

CLAUSE 6 / 6A

Clause applicable 6 (Applicable)

CLAUSE 7

Gross work to be done together with net payment/adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment For Electrical work

CLAUSE 10A :

(b) Elect. Work

- | | |
|-----------------------|-----------------|
| 1. L.T. Megger 500 V | 2. Tong Tester |
| 3. Multi-Meter | 4. Earth Tester |
| 5. Lighting Lux Meter | |

CLAUSE 10B (ii)

Whether clause 10-B(ii) shall be applicable N.A.

CLAUSE 10C

Component of labour expressed as percentage of value of work 25%

CLAUSE-10 (CA)

(b) Elect. Work - N.A.

CLAUSE 10 (CC)

Whether Clause 10 (CC) shall be applicable Not Applicable

CLAUSE 11

Specification to be followed for Execution of work CPWD General Specifications for Electrical & lift Works Part-I, II, IV as amendment up to date and additional conditions and specifications .

CLAUSE 12

12.2 & 12.3 Deviation limit beyond which clause 12.2 & 12.3 shall apply for all items other than foundation items as mentioned in clause 12.5 30 %

12.6 Deviation limit beyond which Clause 12.2 & 12.3 shall apply For foundation work 100 %

CLAUSE 16

Competent Authority for deciding reduced rates. Registrar
Central University of Rajasthan, *Bander Sindri, Ajmer or any by other authority designated Registrar.*

CLAUSE 18

List of mandatory machinery, tools & plants to be deployed by the contractor at site.

- | | |
|---|--|
| 1. Electrically operated Chase cutting machine – 2 Nos. | |
| 2. Electrical wire drawing equipment – 2 Nos. | |
| 3. Conduit Die set. | 4. Pipe Vice |
| 5. Bench Vice | 6. Hydraulic operated and hand operated crimping machines. |
| 7. Portable Drilling Machine | 8. Electrically operated hand held hammer drill machine |

CLAUSE 36 (i) as per requirement

CLAUSE 42

(b) Electrical work

All materials

Nil

RECOVERY RATES FOR QUANTITY BEYOND PERMISSIBLE VARIATION

S.No.	Description of item	Rate in figures and words at which recovery shall be made from the contractor	
		Excess beyond permissible variation	Less use beyond the permissible variation

-----N.A.-----

ADDITIONAL TERMS & CONDITIONS FOR ELECTRICAL WORK

Name of Work : Construction of Laboratory platform/working bench in the department of Pharmacy at Central University of Rajasthan, Bandersindri, Distt. Ajmer, Rajasthan.

1. All the work should be carried out as per the general specification for Elect. works (Part-I Internal 2005 & Part-II External of 1995) amended upto date and should also comply with relevant/provisions of the Indian Electricity Rules and Indian Electricity Act amended upto date & as per instructions and satisfaction of Engineer-in-charge.
2. The department shall deduct GST and other taxes on the value of work done from each bill of the contractor as per prevailing Government instructions/orders. Labour cess as per building and other construction worker's welfare cess act 1996 will be deducted from all the bills payable to the firm. Presently the cess is at the rate of 1% of the gross value of work done. In lieu, the department shall issue a certificate of deduction of tax at source to the contractor in relevant forms.
3. The contractor must study carefully all the specifications/schedule of work/drawings/additional specifications and site parameters and quote firm rates after accounting all works. No extra claim on any account shall be paid/entertained other than the agreement/quoted rates.
4. The order of preference in case of any discrepancy as indicated in condition no. 1 under "Conditions of contract" given in the Standard CPWD Contract form may be read as the following:
 - (a) Nomenclature of item as per Schedule of Quantities.
 - (b) Additional specifications, particular specifications and special conditions for Electrical Works.
 - (c) General conditions.
 - (d) Contract Clauses of General conditions of contract for CPWD 2014.
 - (e) CPWD specifications for electrical works as applicable.
 - (f) Architectural/structural drawings and specifications mentioned in drawings.
 - (g) Indian standard specifications of BIS.
 - (h) Sound engineering practice as per directions of the Engineer-in-charge.
 - (i) Manufacturers' specifications.

A reference made to any Indian Standard Specifications in these documents, shall imply reference 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 of relevant Indian Standards applicable to the work at site.

5. The contractor shall take all safety precautions to avoid accidents by exhibiting caution boards, red flags, red lights and by providing necessary barriers and all other measures required from time to time. The contractor shall be responsible for all damages and accidents due to negligence on his part.

6. The contractor shall give due notices to Municipality, Police and/or other authorities that may be required under the law/rules under force and obtain all requisite permissions/licenses for temporary obstructions/enclosures and pay all charges which may be leviable on account of his execution of the work under the agreement. Nothing extra shall be payable on this account.
7. The contractor shall leave such recesses, holes, openings, etc., as may be required for the electric, air-conditioning and other related works. (For this purpose any required inserts, sleeves, brackets, conduits, base plates, insert plates, clamps etc. shall be arranged by the contractor and fix the same at the time of casting of concrete, stone work & brick work, if required, and nothing extra shall be payable on this account.
8. The contractor shall give a trial run of the equipments and machinery for establishing its capability to achieve the specifications within laid down tolerances to the satisfaction of the Engineer-in-charge before commencement of work.
9. The work will be carried out in close coordination with the building work and other agencies. Conduits will be laid in the slab within the specified time and it will have to be ensured that the casting of slabs is not delayed for want of laying of conduits. The conduits will also be laid in walls before the Plaster work is undertaken so as to avoid breaking cutting of plaster while making chase for laying of conduits subsequently. The contractor will have to employ adequate labour for carrying out the work. No claim regarding the idle labour for any reason will be entertained by the Department.
10. No tools and plants including special T&P etc. shall be supplied by the department and the contractor will have to make his own arrangements at his expenses.
11. All tools, plant and machinery provided by the contractor shall, when brought at the site, be deemed to be exclusively intended for the construction and completion of this work and the contractor shall not remove the same or any part thereof (save for the purpose of moving it from one part of the site to another) without the consent of the Engineer-in-charge.
12. All materials shall be got checked & approved by the Engineer-in-charge on receipt of the same at site before use and rejected material is to be removed from the site immediately.
13. No foreign exchange shall be made available by the department for the purchase of equipments, plants, machinery, materials of any kind or any other items required to be carried out in execution of work.
14. The contractor shall carry out his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor (s) or by the Engineer-in-charge and shall as far as possible arrange his work and shall place and dispose off the materials being used or removed, so as not to interfere with the operations of other contractors, or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the entire satisfaction of Engineer-in-charge.
15. The phenolic laminated sheet shall be Hylem/formica make only.
16. All items which are not covered while carrying out electrical work shall be removed and shall be cleared by the contractors as soon as the work is completed.

17. The contractor shall give the Engineer-in-charge in every fortnight, a progress report of the work done during the previous fortnight. The progress of work will be reviewed periodically by the Engineer-in-charge with the contractor and shortfalls, if any, sorted out. The contractor shall thereupon take such action as may be necessary to bring back his work to schedule without any additional cost to the department.
18. It shall be responsibility of the main contractor to sort out any dispute involved with the associated contractor without any time and cost overrun to the department. The main contractor shall be solely responsible for settling the dispute/litigation arising out of his agreement with the associate contractor. The contractor shall ensure that the work shall not suffer on this account.
19. The contractor shall quote his rates considering the specifications, terms & conditions and particular specifications and special conditions etc. and nothing extra shall be payable whatsoever unless otherwise specified.
20. The main contractor shall be responsible for coordinating the activities of all works and essential progress of works as per milestone and laid down programme.
21. The contractor shall be responsible for the watch and ward of the site/property/material provided by him and materials issued by the department against pilferage and breakage during the period of execution and thereafter till the work is completed and physically handed over to the department.
22. Samples of all materials, fittings and other materials/articles required for execution of the work shall be got approved from the Engineer-in-charge. Materials/articles manufactured by the firms of repute as indicated in tender documents and approved by the Engineer-in-charge shall only be used.
23. The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material or work beyond set out tolerance limits shall be summarily rejected by the Engineer-in-charge.
24. The contractor shall be required to make a sample room for each type at the earliest opportunity using all approved materials for approval of Engineer in charge before mass scale finishing works are taken up.
25. Even ISI marked materials shall be subjected to quality test at the discretion of the Engineer-in-charge besides testing of other materials as per the specifications described for the item/material. Whenever ISI marked materials are brought to the site of work; the contractor shall, if required by the Engineer-in-charge, furnish manufacturers test certificates to establish that the materials procured by the contractor for incorporation in the work satisfy the provisions of IS codes relevant to the material and/or the work done.
26. The contractor shall have to engage well experienced skilled labour and deploy modern T&P and other equipments to execute the work.
27. The firm shall use only electrically operated chase cutting machine for cutting the chases in the wall for recessed conduit wiring.
28. The contractor will have to make his own arrangement for storage of materials. No storage space shall be provided by department.

29. The contractor will have to make his own arrangement for water and power supply for execution of works.
30. The contractor will have to make his own arrangement for water and power supply for execution of works.
31. The contractor will have to ensure that the skilled labour i.e. wireman etc., Engaged in the execution of the work must possess valid electrical license, otherwise he will not be permitted to execute the work.
32. The associate contractors executing the electrical works must possess the valid electrical contractor license otherwise they will not be permitted to execute the electrical works.
33. The contractor shall be responsible for removal of all defects in the work during the guarantee/warranty period. The department shall carry out routine maintenance only. However, if any failure is noticed during this period which is attributable to poor quality of material and bad workmanship, the contractor will be required to rectify the same at his own cost, failure of which the department will be at liberty to get the defects rectified at the risk & cost of the contractor. The contractor will also be required to carryout his own inspection/testing during the guarantee/warranty period and attend to any defect taking place during this period.
34. Priority to arrange the material shall be decided by the department. However material required for the work shall be brought at site only at the appropriate time keeping in view the progress of building works as well as Electrical & Mechanical works. Decision of Engineer-in-charge in this regard shall be final.
35. The contractor has to intimate his authorized representative, who will be receiving instructions in his absence. The contractor /his authorized representative is bound to sign the site order book as and when required by the Engineer-in-charge and to comply with the instructions therein.
36. Suitable back plates providing for fixing the wall brackets and ceiling flush fittings shall be supplied by the contractor free of cost.
37. It shall be responsibility of contractor to provide polythene/PVC plastic cover for all SDBs/meter boards/feeder pillars/panels etc. so as to protect them from wear & tear/damage during execution stage. Contractor shall provide the covers for the materials if any being supplied departmentally also. Nothing extra shall be paid on this account.
38. Contractor is fully responsible for any kind of damage to the LT/HT cable during execution of work. No joints shall be allowed if the cable is damaged. Contractor has to replace the full length at his own cost.
39. The MCB should be of same make as that of MCB DBs.
40. Colour coding shall have to be adopted in the wiring system as per specification.
41. Tinned copper Earthing lugs/Thimbles/ferrules shall be provided for termination of earth wire to all Metallic outlet boxes/fittings/fixtures/fan regulator/MCB DB/switch board/Meter board etc., properly crimped/brazed/soldered for which nothing extra shall be paid.

42. Suitable crimping tools shall be used for crimping the lugs/thimbles/ferrules. Nothing extra shall be paid on this account. The lugs/thimbles/ferrules pressed by conventional/ordinary pliers shall not be accepted.
43. A suitable brass/tinned copper neutral link shall be fixed at suitable place in the Metallic outlet boxes of all sizes to terminate neutral wire properly. Nothing extra shall be paid on this account.
44. An earth termination with earth stud of brass/tinned copper i/c 2 No. metallic washers or suitable earth bar of Brass/tinned copper with tinned copper thimbles/ferrules/lugs should be suitably fixed at suitable place in the Metallic outlet box for termination of protective earth conductor. Nothing extra shall be paid on this account.
45. In the outlet boxes, phase from one switch to other switch shall be looped with suitable size of solid copper conductor. Nothing extra shall be paid on this account. Stranded conductor shall not be accepted.
46. Only required number of knockouts should be removed from Metallic outlet boxes for entry of conduits. If more than required numbers of knockouts are removed, the Metallic outlet box shall not be accepted.
47. Separate G.I. boxes shall be used for staircase light switches and bell push. Nothing extra shall be paid on this account.
48. Metal sheath of Co-axial T.V. cable shall be terminated using 'U' shape thimble/lugs/ferrules. Nothing extra shall be paid on this account.
49. To facilitate drawing of wires 16/18 SWG GI fish wire be provided along with laying of recessed conduit. Nothing extra shall be paid on this account.
50. Cable connection to switch gear is deemed to be included in the item of end termination. No extra payment shall be made for that.
51. The work shall be carried out in accordance with the drawings approved 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 and satisfy himself that the information available is complete and unambiguous. The discrepancy, if any, shall be brought to the notice of Engineer-in-charge before execution of work. The contractor himself shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and or incomplete information.
52. Guarantee: All material shall be guaranteed for a period of 12 months from the date of taking over the installation by the department against unsatisfactory performance and/or break down due to defective design, workmanship of material. The material or equipment or any other there of so found defective during guarantee period shall forthwith be repaired or replaced free of cost, to the satisfaction of the Engineer-in-charge. In case it is felt by the department that undue delay is being caused by the contractor in doing this, the same will be got done by the department at the risk and cost of the contractor. The decision of Engineer-in-charge in this regard shall be final & binding.

53. The contractor shall engage appropriate class of contractor for electrical work enlisted in appropriate class. the main contractor shall not indulge in procurement of electrical items and getting the work done on labour contract with the electrical contractor. the whole electrical component shall be executed by the eligible electrical contractor on a turnkey basis i.e. procurement of material & engaging labour. The associate electrical contractor shall submit the completion certificate of electrical work executed by him along with necessary test reports, completion plan etc.

TECHNICAL SPECIFICATIONS FOR INTERNAL EI WORKS

1. All hardware items such as screws, thimbles, connectors, earth/neutral terminals, wires etc. which are essentially required for completing any item as per specifications will be deemed to have been included in the item even when the same have not been specifically mentioned.
2. All hardware material such as nuts/bolts/screws/washers etc. to be used in the work shall be zinc/cadmium plated iron. The galvanised boxes of modular switch/sockets etc. shall be of the same make as of switch/socket etc.
3. While laying conduit, suitable minimum number of junction boxes shall be left for pulling the wires. These shall be placed in such a way that the same do not remain noticeable.
4. Multi stranded FRLS PVC insulated copper conductors wires are to be used in the work. Termination of multi-stranded conductors shall be done using crimping type copper thimbles at both the ends. Nothing extra shall be paid for the same.
5. The contractor shall follow the shortest route for circuits, submain, point wiring etc.
6. The connections of switches, sensors, earthing conductors & interconnections cables shall be made by adequate rating thimbles of approved standard makes only and nothing extra on this account shall be paid.
7. Check nuts shall be provided while terminating the M.S. conduits in switch board boxes for which nothing extra shall be paid.
8. All distribution boards shall be marked with circuits controlling the rooms/area/SDB controlled.
9. Material to be used in the work shall be ISI marked. The makes of material have been indicated in the list of acceptable makes. No other make will be acceptable. The material to be used in the work shall be got approved from the Engineer-in-charge before its use at site. The Engineer-in-charge shall reserve the right to instruct the contractor to remove the material which, in his opinion, is not as per specifications.
10. While deciding the size of switch boxes for light points/fan point, exhaust fan point items, extra two modules will be provided for each fan point for fixing of regulator(s) (fan regulator is to be provided under different item). Wherever extra modules are available, the same shall be provided with blanking plates without any extra cost.
11. Modular type switches/sockets/telephone outlets/TV sockets are to be provided wherever indicated in the items. The same shall be of only one make. The modular plates of switches, sockets, telephone & TV sockets etc. shall be in two parts i.e. plates with frames with in quoted rates.
12. The building shall be provided with false ceiling in various areas. In order to avoid maintenance problem the contractor will not provide any ceiling rose/connector/looping box etc. above the false ceiling. The point wiring in that case will be extended up to the fitting/fan etc. directly without provisions of any termination arrangement in between. The wire from the end point up to the fixture shall be considered to be included in the point wiring. Nothing extra shall be paid for the same.
13. Wherever it is not possible to provide rigid conduits, flexible conduit pipe shall be provided for drawing/running the wires. However, such arrangement has to be kept to the barest minimum and only with the prior approval of Engineer-in-charge.
14. Earthing and all hidden items of work shall be carried out in the presence of the Engineer-in-charge or his authorized representative.

15. The fan box cover shall be made from 3mm thick phenolic laminated sheet as per CPWD specification.
16. The contractor shall provide only metallic junction boxes/looping boxes with cover of required sizes even in PVC conduiting and such boxes shall be measured as a part of conduit/wiring without any extra payment.
17. The metallic junction boxes & looping boxes shall be covered with approved makes of phenolic laminated sheet. For telephone, television & fire alarm system shall be provided at all the floors with in scope of work without any extra cost as per requirement & layout approved by Engineer-in-charge.
18. The firm has to go through the site order book kept with the Junior Engineer(E) regularly and has to sign the same and carryout the instructions recorded therein by various officers of the department.
19. The quantities of various items may vary from the quantities given in schedule of work. The agency shall bring the various items & materials as per actual requirement at site at the time of execution of work. Excess quantities shall not be accepted & paid by the department.
20. The ceiling roses wherever required to be provided are included in the scope of work without extra payment and the same shall also be of modular type & of the same make as that of switches & sockets alongwith earthing provision.
21. Acceptable makes for various Electrical are as under :-

S.No.	Details of Materials / Equipment	Manufacturer's Name
A.	MEDIUM VOLTAGE EQUIPMENT	
1	MCB/MCBDB/ Changeover, Isolator, Industrial Plug Socket	Schneider Electric Legrand Hager (L&T) Siemens
2	Moulded Case Circuit Breaker (MCCB) 3 & 4 Poles with rotary operating mechanism)	Schneider Electric Siemens Larsen & Toubro, Legrand
3	Residual Current Circuit Breaker (RCCB / RCBO's)	Schneider Electric (MG) Legrand Hager (L&T) Siemens
4	FRLS, PVC insulated copper conductor single core cable for wiring. (ISI marked)	Finolex, RR Kabel, L&T, Lappkabel
5	M S Conduit (ISI marked)	AKG (ISI marked) BEC (ISI marked) NIC (ISI marked)
6	Heavy Duty Accessories for MS Conduit	Sharma Sales Corporation Super Sales Corporation

7	Modular Switch, Socket/Telephone Socket/ Cable TV Socket/ Data outlet Socket / Fan Regulator/ Metal Boxes Etc (Wiring Accessories)	Havells-Piccadily Anchor Ave Legrand (Arteor)
8	Selector Switch, Toggle switch	Salzer (Larsen & Toubro) Siemens Kaycee
9	GI pipe	Tata Jindal (Hissar) or equivalent
10	Paints	ICI Asian Berger
11	Terminal Blocks and Connectors	Elmax/Wago/Hensel
12	Phenolic Laminated sheet	Hylam/Formica (P-I Grade)
13	Electrical Light Fittings	As per bill of quantity
14	Bimetallic Cable Lug	Comet, Dowell's (biller India) , Hax Brass (Copper Alloy India)
15	LT Jointing KIT/Termination	Birla-3m, Raychem, Safe Kit
16	Cable Trays/Raceways/Junction box	Profab, RICCO, MEM
17	Miniature Circuit Breaker (MCB) and RCCB/RCB's	Schneider Electric C-60HM-9 Legrand (Lexic) Hegar (L&T) Siemens (Betaguard)
18	Power / Aux. Contactor 3/ 4 Pole	Schneider Electric (Telemecanique) Larsen & Toubro ABB, Siemens
19	On- Load Change over switch	HPL - Socomec HH Elcon Larsen & Tourbro Havells
20	Potential Transformers	Automatic Electric Gilbert & Maxwell Matrix Pragati Precise
21	Current Transformer	Automatic Electric Gilbert & Maxwell Matrix Pragati Precise

22	Indicating Lamps LED type , Push Button	Schneider Electric (MG) Larsen & Toubro (ESBEE) Siemens Vaishno
23	Overload relays with built in Single Phase Preventer	Schneider Electric – TE Larsen & Toubro Siemens ABB
24	Electronic Digital Meters (A/V/PF/Hz/KW/KWH) (Networking type)	Conzerv Larsen & Toubro Secure
25	Timer	Siemens L&T Schneider Electric – TE
26	MCCB with thermal magnetic release	ABB,Schneider Electric, Siemens, L&T
27	Fasteners	Hilti, Fisher
28	Selector Switch, Toggle switch	Kaycee Salzer (Larsen & Toubro)
29	All other materials	Make and sample to be approved by Engineer-in-charge before use on work.

22. Materials not specified in the ATTACHED LIST OF ACCEPTABLE MAKES FOR ELECTRICAL MATERIALS shall be got approved from Engineer-in-charge before use on work. Decision of Engineer-in-charge shall be final in this respect.