N.I.T.

NIT. No. : CURAJ/R/F171/2025/3043 Date :09.12.2025

Name of Work	**Composite Civil and Electrical works for setting up of incubation foundation at SP-1 Building, Central University of Rajasthan.**

Rs.5,26,192/-

Central University of Rajasthan
NH-8, Bandarsindri, Kishangarh-305817, Ajmer(Raj.)

NOTICE INVITING E- TENDER

The Registrar, Central University Rajasthan, Bandarsindri, Dist. Ajmer (Raj.) invites item rate tenders from eligible contractors for the work mentioned below.

NIT No. CURAJ/R/F171/2025/3043	**Date: 09.12.2025**
Name of Work :	**Composite Civil & Electrical works for setting up of incubation foundation at SP-1 Building, Central University of Rajasthan.**
Estimated Cost :	**Rs.5,26,192 /-**
Earnest Money :	**Rs.11,000 /-** (As per CPWD manual MSME exemption not allowed for works)
Last time and date of submission of Tender	**Upto 1400 Hrs. on 23.12.2025**
Time & date of opening of technical bid of tender	**At 1500 Hrs. on 24.12.2025**
Time & Date of opening of Financial Bid	**To be intimated later of technically qualified bidders**

The tender forms and other details can be obtained from the website www.curaj.ac.in, www.eprocure.gov.in.

Notice inviting tender approved for Rs.5,26,192/- (Rupees Five lakh Twenty Six thousand one hundred ninety two only).

Registrar
Central University of Rajasthan
Bandarsindri, Ajmer

Name of Work: Composite Civil & Electrical works for setting up of incubation foundation at SP-1 Building, Central University of Rajasthan.

INDEX

Certified that this NIT contains 1 to 60 pages including NIL drawings.

Notice inviting tender approved for Rs.5,26,192/- (Rupees Five lakh Twenty Six thousand one hundred ninety two only).

Registrar
Central University of Rajasthan

INFORMATION AND INSTRUCTIONS FOR CONTRACTORS FOR TENDERING

The Registrar, Central University Rajasthan, Bandersindri, Distt. Ajmer (Raj.) invites item rate tenders from eligible contractors 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.171/2025/ 3043 Date:	**Composite Civil & Electrical works for setting up of incubation foundation at SP-1 Building, Central University of Rajasthan.**	Rs.5,26,192/-	Rs.11000/- (As per CPWD manual MSME exemption not allowed for works)	45 days	Upto 1400 hrs on 23.12.2025	At 1500 hrs on 24.12.2025

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.

   The demand drafts shall be drawn in favour of "Central University of Rajasthan" payable at Bandarsindri/Kishangarh. The demand drafts for earnest money deposit must be enclosed in the envelope containing the technical bid. The EMD of the successful bidder may be a part of Performance Guarantee and for unsuccessful bidder(s), it would be returned (without interest) after award of the contract. Tenders received without EMD shall not be accepted.
   Details of University account for deposition of EMD: Name: Central University of Rajasthan
   Name of Bank: Bank of India Branch Name: Central University of Rajasthan
   Account No. 666110210000003 IFSC: BKID0006667

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 10% (Ten percent) of the 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 if applicable.

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 seen from the University website www.curaj.ac.in ,CPP Portal www.eprocure.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 (GST Registration).

10.2 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.

10.3 Undertaking regarding non- blacklisting of any Government body.

10.4 Earnest Money Deposit (EMD) of Rs.11,000/-

10.5 GST registration Certificate.

10.6 The bidder should have **average annual financial turnover (gross)** of **30% of the estimated cost** of similar works during the immediate last three consecutive financial years balance sheets, ending 31st March 2025, duly audited by Chartered Accountant. Year in which no turnover is shown would also be considered for working out the average. (Scanned copy of Certificate from CA with Unique Document Identification Number (UDIN) to be attached). The value of annual turnover figures shall be brought to the current value by enhancing the actual turnover figures at simple rate of 7% per annum.

10.7 Should not have incurred any loss (profit after tax should be positive) in more than two years during the last five years ending 31st March 2024.

10.8 Should have a Banker's Certificate from a commercial Bank or Net Worth certificate from CA with Unique Document Identification Number (UDIN) of minimum 10 % amount of ECPT.

10.9 Should have bidding capacity equal to or more than the estimated cost of the work put to tender. The bidding capacity shall be worked out by the following formula:

Bidding Capacity = {[AxNx1.5]-B}

Where,

A = Maximum turnover in construction works executed in any one year during the last seven years taking into account the completed as well as works in progress. The value of completed works shall be brought to current costing level by enhancing at a simple rate of 7% per annum.

N = Number of years prescribed for completion of work for which bids have been invited.

B = Value of existing commitments and ongoing works to be completed during the period of completion of work for which bids have been invited.

(Note: Supporting document to be enclosed to determine the bidding capacity).

10.10 The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.

10.11 Duly signed Tender document shall be uploaded by the bidders on the CPP portal www.eprocure.gov.in as a token of acceptance of NIT terms and conditions.

Note: Similar Nature of work means work related to Composite Civil & Electrical work/Maintenance work in any Govt. Departments and PSUs.

The Goods and Service Tax, Turnover Tax, Excise Duty, Work Contract Tax, Or any other Tax as applicable shall be paid by the contractor himself. ***The contractor shall quote his rates considering all such Taxes.***

Note: Every care has been taken while preparing this document to cover all necessary information, matters, specifications, general conditions, special conditions & provisions for smooth and complete execution of works. However, in case of any omission in the tender/ contract document, the most recent version of general conditions of contract for CPWD Works, 2023 shall be the reference manual.

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 of 2025

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/F.171/2025/3043 Date :09.12.2025) (hereinafter referred to as "**Tender/Tender**") and intends to award, under laid down organizational procedure, contract for *''***Composite Civil & Electrical works for setting up of incubation foundation at SP-1 Building, Central University of Rajasthan.***'* 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 estrict 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)/Contract(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
   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 intensions.
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)

Date

CENTRAL UNIVERSITY OF RAJASTHAN
Notice Inviting E-Tender

Item rate tenders are invited on behalf of Central University of Rajasthan from eligible contractors for the work of *"***Composite Civil & Electrical works for setting up of incubation foundation at SP-1 Building, Central University of Rajasthan.** *"*.

1. The work is estimated to cost Total Cost: Rs.5,26,192/-

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

2. Agreement shall be drawn with the successful tenderers on prescribed Form No. CPWD 8 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 **45 days** from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the 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 on 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 10% (Ten 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 8 (GCC for CPWD works 2023) amendments up to date.

Central University of Rajasthan
Item Rate Tender

(A) Tender for the work of: - **"Composite Civil & Electrical works for setting up of incubation foundation at SP-1 Building, Central University of Rajasthan.** ".

(B) **(**i) Tenders to be submitted upto 14:00hrs on 23.12.2025 on the CPPP Portal.

(ii) To be opened (technical bid) online on the next day at 24.12.2025 at 14:05 hrs on the CPP Portal.

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.11,000/- 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 (A to F)

SCHEDULE 'A'
Schedule of quantities- As per NIT

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

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

SCHEDULE 'C'
Tools and plants to be hired to the contractor

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

SCHEDULE 'D'
Extra schedule for specific requirements/ documents for the work, if any.
Special conditions - As per NIT
Particular Specifications. - As per NIT
Annexures - As per NIT
Form of performance security (Bank Guarantee Bond), Form of earnest money deposit (Bank Guarantee Bond), guarantee bond for Water Proofing, Sanitary Installations/ Water Supply/ Drainage, for removal of defects in Stone/ tile work, Aluminium Doors, Windows Ventilator Work, Furniture work etc.

SCHEDULE 'E'
Reference to General Conditions of Construction Contract : General Conditions of Contract 2023 Works for CPWD works amended up to last date of submission of bids.

1.1 **Name of Work** : **Composite Civil & Electrical works for setting up of incubation foundation at SP-1 Building, Central University of Rajasthan.**

1.**2 Estimated Cost of work**: -
Total : Rs. 5,26,192/-

1.3 **Earnest Money** : Rs. 11,000/- (To be returned after receiving performance guarantee)

1.4 **Performance Guarantee** : 5.00% of tendered value

1.5 **Security Deposit**: 2.5% of billing value shall be deducted from the each bill.

SCHEDULE 'F':

General Rules & Directions:-

1**. Officer Inviting Tender:** Registrar, Central University of Rajasthan or his successor thereof

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3 — See below under Clause-12

Definitions:-

2(i) **Engineer-In-Charge** : Executive Engineer, Central University of Rajasthan or his successor thereof

2(ii) **Accepting Authority:** The Competent Authority, Central University of Rajasthan

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

2(iv) **Standard Schedule of Rates**: DSR-2023 (Civil work) and DSR -2022 for Electrical Work,

2(v) **Department** Estate Section, Central University of Rajasthan.

2(vi) Standard CPWD Contract Form GCC 2023 Construction Works and CPWD Form 8 as amended/ modified up to the last date of submission of bids.

Clause-1:

(i) Time allowed for submission of performance guarantee, programme chart (Time and Progress) and applicable labour licences, registration with EPFO, ESIC and BOCW Welfare Board, Provident Fund Nos. or proof of applying thereof from the date of issue of letter of acceptance. — 15days

(ii) Maximum allowable extension with late fee @0.1% per day of the performance guarantee amounts beyond the period provided in (i) above — 5 days

Clause-2 :

(i)Authority for fixing compensation under Clause 2 — Registrar, Central University of Rajasthan or his successor thereof.

OR

General Conditions of Contract 2023 for Construction for construction works shall be applicable.

Clause-5:

Number of days from the date of issue of letter of acceptance for reckoning date of start — 15 days

Mile Stone — Refer Para (A) Table of Milestones as per NIT.

Time allowed for execution of work — 45 (Forty Five Days)

TABLE OF MILE STONE (S)

Name of work: Composite Civil & Electrical works for setting up of incubation foundation at SP-1 Building, Central University of Rajasthan.

Note : Mile stones shall be applicable of the work, the same shall be submitted by the L-1 bidder separately.

Authority to decide:

i. Authority to convey the decision of shifting of milestone and extension of time	Registrar, Central University of Rajasthan or his successor thereof
ii. Re-scheduling of Mile stones Extension of time for completion of work	Registrar, Central University of Rajasthan or his successor thereof
iii Shifting of date of start in case of delay in handing over of site.	Registrar, Central University of Rajasthan or his successor thereof

Schedule of handing over of site:

Part	Portion of site	Description	Time period for handing over reckoned from date of issue of letter of intent
Part A	Portion without any hindrance	Full site for the work	On the day of issue of letter of commencement of work by the Engineer-in-Charge.
Part B	Portions with encumbrances	***	***
Part C	Portions dependent on work of other agencies	***	***

*** To be filled by Executive Engineer

Schedule of issue of Designs: -

Part	Portion of design	Description	Time period for issue of design reckoned from date of receipt of tenders
Part A	Portion already in NIT	Soil investigation report	NA
Part B	Portions of Architectural Designs to be issued	All Architectural and Structural drawings	Available

Clause 5.2:-
Nature of hindrance register: Physical
(either Physical or Online)

Clause 5.4 :-
Schedule of rate of recovery for delay in submission of the revised programme in terms of delay per days basis

Sl.No.	Contract Value	Recovery Rs. Per day basis
I.	Less than or equal to Rs. 1 crore	500
II.	More than Rs. 1 Crore but less than or equal to Rs. 5 Crore	1000
III.	More than Rs. 5 Crore but less than or equal to Rs. 20 Crores	2500

IV.	More than Rs. 8.00 Crores	5000

Clause-6 :-Computerized Measurement Book Yes, 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 — Applicable

Clause-7A:-
Regarding applicability of labour laws Related to Labour licensee, registration of contractor with EPFO, ESIC and BOCW welfare board i/c Provident Fund Code No. if applicable — Yes, Applicable

No running account bill shall be paid in the work till the applicable labour licenses, registration with EPFO, ESIC, BOCW welfare board including Provident Fund Code No. if applicable whatever applicable are submitted by the contractor to the Engineer-in-charge.

Clause-7B:- Yes, Applicable (Authority letter to be given by contractor as per Annexure-II)

Clause 8 A :
Authority to decide compensation on account if contractor fails to submit completion plans — Registrar Central University of Rajasthan or his successor thereof

This shall not apply for maintenance or upgradation contracts not involving any services.
For other works, the recovery shall be made @ 0.1% (Zero-point one percent) of accepted Tendered Value OR recovery rate limit specified below, whichever is more.:

Sl.No.	Contract Value	Recovery Rs.
I.	Less than or equal to Rs. 1 crore	2000
II.	More than Rs. 1 Crore but less than or equal to Rs. 5 Crore	5000
III.	More than Rs. 5 Crore but less than or equal to Rs. 20 Crores	25000
IV.	More than Rs. 8 Crores	50000

CLAUSE 10A :

List of testing equipment to be provided by the contractor at site lab.
Civil :- As per requirement:
All necessary equipment for conducting all necessary tests shall be provided at the site in the well furnished site laboratory by the contractor at his own cost with proper light and ventilation. The following minimum laboratory equipments shall be set up at site office laboratory:-

Sl. No.	Equipment	Numbers (Minimum)
1.	Slump cone, steel plate, tamping rod, steel scale, scoop	2
2.	Weighing scale platform type 100 Kg capacity	1
3.	Graduated glass measuring cylinder	As per requirement (Min 6 nos)

4.	Sets of sieves of 450mm internal dia for coarse aggregate [100mm, 80mm, 63mm, 50mm, 40mm;25mm, 20mm; 12.5mm, 10mm;6.3mm, 4.75mm complete with lid and pan]	1
5.	Sets of sieves of 200mm internal dia for fine aggregate [4.75mm; 2.36mm; 1.18mm; 500 microns;425 microns; 300 microns, 150 micron 90 micron;75micron , with lid and pan]	2
6.	Motorized sieve shaker	1
7.	Cube moulds size 150mmx150mmx150mm	As per requirement (Min 24Nos)
8	Cube Compression testing machine ((Digital) (Min 100kg capacity)	1
9.	Hot air oven temp. Range 50°C to 300°C- sensitivity 1 degree	1
10.	Electronic balance 600gx0.1g., 10kg and 50 kg	1 each
11.	Physical balance weight up to 5 kg	1
12.	Measuring jars 100ml, 200ml, 500ml	As required (Min 2 each)
13.	Gauging trowels 100mm & 200mm with wooden handle	As required (Min 4 nos)
14.	Spatula 100mm & 200mm with long blade wooden handle	As required (Min 4 nos)
15.	Vernier calipers 12” & 6” size	1 each
16.	Digital paint thickness meter for steel 500 micron range	1
17.	GI /MS tray 600x450x50mm, 450x300x40mm,300x250x40mm	2 No each
18.	Screw gauge 0.1mm-10mm, least count 0.05	1
19.	Wash Bottles capacity 500 ml	As required
20.	Hacksaw	2
21.	Measuring tape 2 mtr	6
22.	Shovels & Spade	6
23.	Plastic or G.I. Buckets 15 ltr, 10 ltr, 5 ltr	1 each
24.	Wheel Barrow	3
25.	Floor Brushes, hair dusters, scrappers, wire brush, paint brushes, shutter steel plat oil, kerosene with stove etc.	3 each
26.	Any other equipment for site tests as outlined in BIS codes and as directed by the Engineer-in-charge.	As required
27	Computer and Laser Printer	1 Set

Clause-10-B (ii).

Whether clause 10-B (ii) shall be applicable Not Applicable

Clause-10C:-
Component of labour expressed as percent of value of work = NA

Clause 10 CA - Deleted (as per O.M. No. DG/CON-Construction-2020/2022 dated 22/12/2022)

Clause-10-CC: Not Applicable

Clause-11:-	Specifications to be followed for execution of work	:	C.P.W.D. Specifications 2019 Vol. I & II with correction slips issued upto last date of submission of bids.
Clause-12:-	Type of Work:	:	Composite Civil & Electrical work
12.2 & 12.3 :	Deviation limit beyond which clause 12.2 & 12.3 shall apply for building work in superstructure.	:	100%
12.5	(i) Deviation limit beyond which clause 12.2 & 12.3 shall apply for foundation works (except items mentioned in earth work Sub-Head in DSR and related items)	:	100%
	(ii) Deviation limit for items mentioned in Earth work Sub-head of DSR and related items	:	100%
Clause-16:-	Competent Authority for deciding reduced rates.		Registrar, Central University of Rajasthan or his successor thereof.
Clause 18: -	List of mandatory machinery, tools & plants to be deployed by the contractor at site	:	As per NIT and as required for timely execution of work

Clause 19 C:-	Authority to decide penalty for each default	:	Registrar, Central University of Rajasthan or his successor thereof
Clause 19 D:-	Authority to decide penalty for each default	:	Registrar, Central University of Rajasthan or his successor thereof
Clause 19 G:-	Authority to decide penalty for each default	:	Registrar, Central University of Rajasthan or his successor thereof
Clause 19 K:-	Authority to decide penalty for each default (The provisions of this clause, shall not be applicable for works with estimated cost put to tender being less than Rs. 5.00 Crores).	:	Registrar, Central University of Rajasthan or his successor thereof

Clause 25: Constitution of Dispute Redressal Committee (DRC):

Clause-25: Settlement of Disputes by Conciliation and Arbitration		
(a) Conciliator for conciliation of disputes		Hon'ble Vice Chancellor, Central University of Rajasthan, or Successor thereof.
(b) Arbitrator Appointing Authority		Registrar, Central University of Rajasthan
(c) Place of arbitration:		CURAJ, Campus or as decided by competent authority.

Clause-32: Requirement of Technical Representative(s) and Recovery Rates: As per requirement

"Assistant Engineer retired from Government Services who are holding Diploma will be treated at par with Graduate Engineer".
Diploma holder with minimum 10 year relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.

Clause-38:-

i)	Schedule / Statement for determining theoretical quantity of cement & bitumen	:	As per Delhi Schedule of Rates 2023 with amendments upto the last date of submission of bids.
ii)	Variations permissible on theoretical quantities.		
a)	Cement	:	2% plus / minus.
b)	Steel Reinforcement and structural steel sections for each diameter, section and category.	:	2% plus / minus.
c)	Bitumen for all work.	:	2.5% Plus side only and NIL on minus side
d)	All other materials.		Nil.

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 singed 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 Item Rate – Tender only (CPWD – 8)

1. The rate(s) must be quoted in decimal coinage. Amounts must be quoted in full rupees by ignoring fifty paisa and considering more than fifty paisa as rupee one.
2. In case the lowest tendered amount (worked out on the basis of quoted rate of Individual items) of two or more contractors is same, then such lowest contractors may be asked to submit sealed revised offer quoting rate of each item of the schedule of quantity for all sub sections/sub heads as the case may be, but the revised quoted rate of each item of schedule of quantity for all sub sections/sub heads should not be higher than their respective original rate quoted already at the time of submission of tender. The lowest tender shall be decided on the basis of revised offer.
   If the revised tendered amount (worked out on the basis of quoted rate of individual items) of two or more contractors received in revised offer is again found to be equal, then the lowest tender, among such contractors, shall be decided by draw of lots in the presence of Registrar CURAJ, or Engineer in-charge of major & minor component(s) and the lowest contractors those have quoted equal amount of their tenders.
   In case of any such lowest contractor in his revised offer quotes rate of any item more than their respective original rate quoted already at the time of submission of tender, then such revised offer shall be treated invalid. Such case of revised offer of the lowest contractor or case of refusal to submit revised offer by the lowest contractor shall be treated as withdrawal of his tender before

acceptance and 50% of his earnest money shall be forfeited.

In case all the lowest contractors those have same tendered amount (as a result of their quoted rate of individual items), refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each lowest contractors.

Contractor, whose earnest money is forfeited because of non-submission of revised offer, or quoting higher revised rate(s) of any item(s) than their respective original rate quoted already at the time of submission of his bid shall not be allowed to participate in the retendering process of the work.

Applicable for Item Rate Tender only

(i) In the case of Item Rate Tenders, only rates quoted shall be considered. Any tender containing percentage below/above the rates quoted is liable to be rejected. Rates quoted by the contractor in item rate tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates written in figures and words. However, if a discrepancy is found, the rates which correspond with the amount worked out by the contractor shall unless otherwise proved be taken as correct. If the amount of an item is not worked out by the contractor or it does not correspond with the rates written either in figures or in words, then the rates quoted by the contractor in words shall be taken as correct. Where the rates quoted by the contractor in figures and in words tally, but the amount is not worked out correctly, the rates quoted by the contractor will unless otherwise proved be taken as correct and not the amount. In event no rate has been quoted for any item(s), leaving space both in figure(s), word(s), and amount blank, it will be presumed that the contractor has included the cost of this/these item(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly.

However, if a tenderer quotes nil rates against each item in item rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer and earnest money deposited shall be forfeited.

The Contractor whose tender is accepted, will be required to furnish performance guarantee of 3% (Three Percent) of the tendered amount within the period specified in Schedule F. This guarantee shall be in the form of Demand draft, Fixed Deposit Receipts or Guarantee 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. Fixed Deposit Receipt of a Scheduled Bank or State Bank of India will also be accepted for this purpose provided confirmatory advice is enclosed.

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.

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.

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.

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 the 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 2019 Vol. – I&II 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. Not with standing 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 (if applicable)**

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 additional 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 2019, 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 FOR COMPOSIT WORK

1.0 GENERAL

1.1 The work in general shall be executed as per the description of the item, specification attached, CPWD specifications 2019 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 2019 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 50 Km.) or any other source as approved by the Engineer in charge.

(ii) Sand/M- 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.

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 form 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 attendee by 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 this 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/volume 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, snug, budges 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.

Placing Conditions	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.

1.2.09.2 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 2019, 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 confirm 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(if applicable)

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& Nicholsion 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.

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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/if required
2.	Concrete Pumps (One Stationary and One Placer boom) of adequate capacity.	As per requirement/if required
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
19.	Machinery related to retargeting/road work	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 WITHNES 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. _____

Annexure –II

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 WITHNES 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. _____

Annexure –III

FORM OF PERFOMANCE 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 be 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)

Annexure –IV

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.

Annexure- V

14 - LIST OF PREFERRED MAKES FOR CIVIL WORKS

S.No	Material	List of Preferred Make
1.	(i) Ordinary Portland Cement / Portland Pozzolona Cement.	ACC, Ultratech, Ambuja Cement, J.K. Cement, Century Cement, Shree Cement, Jaypee Cement, Wonder Cement
	(ii) White Cement	Birla White, J. K. White, Shree Cement
2	Reinforcement Steel (A) TMT Reinforcement Bars	SAIL, Tata Steel, RashtriyaIspat Nigam Ltd (RINL), JSW Steel Ltd., Jindal Steel & Power Ltd.
	(B) Corrosion Resistant Steel (CRS) Reinforcement Bars	SAIL CRS , Tiscon CRS of Tata Steel, CRS VIZAG from RashtriyaIspat Nigam Ltd (RINL), JSW Neo CRS from JSW Steel Ltd.,
3.	Water Proofing Compounds, Admixtures, Plasticizer, Super Plasticizer, Curing Compounds	Fosroc, ROFF/Dr. Fixit(Pidilite Industries), CICO, Sika, BASF, Ardex Endura (Bal Endura), NerolacPerma, MYK Arment
4.	Integral Water proofing compound with cement (For Plaster & Mortar)	Fosroc, Conplast 421 Dr. Fixit : LW+, Sika : Sikacim, & equivalent product of BASF, CICO, Ardex Endura, Nerolac-Perma, Asian Paints, Shalimar(STP), UltraTech, MYK Arment
5.	Water proofing for bathroom/ toilet/ balcony & other wet areas	Fosroc : Brush Bond/Brushcrete, CICO :Tapecrete, Dr. Fixit : Pidifin 2K, Sika : Nito Bond, Asain Paints : Damp Block 2 K & equivalent product of BASF, Ardex Endura, Nerolac-Perma, Shalimar(STP), UltraTech, MYK Arment
6.	Crystalline water proofing compound	Fosroc : Fosroc Crystalline
		Dr Fixit : Dr. Fixit Crystalline
		Sika : Sika Crystalline
		Asian Paints : Crystalline Quart, MYK Arment, Aqua Aum C-35
		& equivalent product of BASF, CICO, Ardex Endura, Pentron, Nerolac-Perma
7.	Grouts, Tile Adhesive	Latecrete,BASF, Ardex Endura, Ferrous Crete, Pidilite, UltraTech, Oswal Industries
8	Stone Adhesive	Pidilite - Fevimate excel, BASF, Ardex Endura, MYK Laticrete, Oswal Industries
9A	Structural Steel	SAIL, Tata Steel, RashtriyaIspat Nigam Ltd (RINL), and JSW Steel Ltd., Jindal Steel & Power Ltd, Apollo Pipes

S.No	Material	List of Preferred Make
9B	Structural Steel (For Angle, T-Section, etc. below 50mmx50mmx4mm)	SAIL, Tata Steel, RashtriyaIspat Nigam Ltd (RINL), and JSW Steel Ltd., Jindal Steel & Power Ltd, Apollo Pipes, Prithvi
10	Polycarbonate Sheet	GE Plastic, LEXAN, Bayers
11	Profile steel sheet/Deck Steel Sheets	TATA Bluescope, JSW,Eversandai, Jindal
11(A)	Sandwich Profile panel	Kingspan, Lloyd, Metclo (Note : Profile steel sheet should be of make Tata/Jindal/JSW).
12	Particle Board	Action TESA, Greenlam, Merino
13	Laminates	Action TESA, Greenlam, Century Ply, Merino, Sunmica
14	Flush door shutters	Duro, Century, Durian, Green ply, Jaindoors Pvt. Ltd.
15	Fire Rated Doors	Signum Fire Protection, Shakti Metdoor, NAVAIR, Sukri, Promat International, Bhawani Fire, Jaindoors,
16	False Ceiling System Metalic, Mineral fiber, Gypsum, GRG	Armstrong, Hunter Douglas, Saint Gobain, Aerolite, Durlum, Gyproc, Diamond ceiling
17	Plywood/ Veneer	Green ply, Greenlam, Century, Merino, Duro, Durian
18	Melamine Polish	Asian Paints Melamine Gold, Wudfin of Pidilite, Timbertone of ICI Dulux.
19	Floor Spring & Door Closure	Godrej, Dorma, Dorset, Kich, Hafele
20. (a)	Aluminium Section	Hindalco, Jindal, Indian Aluminium co.
20. (b)	Anodised Aluminium Hardware (Heavy Duty)	Kilong, Alualpha, Classic, Ebco
21	Clear/Float/Frosted/ Toughened Glass/ Refractive Glass	Saint Gobain, AIS, Modiguard, Ashai Float.
22	Stainless Steel Railing, Accessories etc.	JINDAL, Dorma, Kich, GEZE, Godrej, Dorset
23	S.S. Door & window & Fittings	Dorma, Kich, Dorset, Godrej, Hafele
24	Silicon based water repellant /Weather Sealant	G.E. Plastics, Dow Corning, Wacker, BASF, Pidilite (Dr. Fixit/Roff), Nerolac-Perma
25	Poly-Sulphide Sealant	Fosroc, Pidilite (Dr. Fixit/Roff), Sika, BASF, Nerolac-Perma
26	Mosaic tiles/ Chequered Tiles	Ultra Tiles, NITCO, Hyper(Mayur), Pavcon, Oswal, Swastik, Oswal Industries
26.	Fire door Hardware	Hafele, Dorma, GEZE, Ingersol raid
27	Ceramic Tiles	Kajaria, Somany, Johnson, AGL, Orient bell
28	Vitrified Tiles (Satin/Matt/Glazed finish)& Paver Tiles	Kajaria, Somany, Johnson, Restile, AGL, Orient bell
29	Paver block & Kerb Stone	Pavcon, AkshayInfrasys, Marudhara, Hyper Tiles/Dynamic Industries/ Mayur, Oswal Industries
30	Dash / Anchoring Fasteners	HILTI, Fischer, Bosch, Wurth.

S.No	Material	List of Preferred Make
31	Cement Based Wall putty	Birla wall care, JK White, Berger, Asian Paints
32	Oil Bound Washable Distemper / Dry Distemper	Asian Paints : Professional Acrylic Distemper, Nerolac: Beauty Acrylic Distemper, Berger : Bison Acrylic Distemper, Akzonobel DULUX : Maxilite
33	1st Quality Acrylic Distemper (washable/Ready mix/ Low VOC)	Asian Paints : Tractor Aqua Lock Paint, Berger : Commando or equivalent paints of Nerolac or Akzonobel DULUX
34	Acrylic Emulsion Paints	Asian Paints : Professional Premium Interior Emulsion Paint, Nerolac : Beauty Gold, Berger : Rangoli total care, Akzonobel DULUX : Akzonobel Dulux Professional Solitaire A1000
35	Plastic Emulsion Paint	Asian Paints : Apcolite Heavy Duty Premium Emulsion Paint, Nerolac : Impression, Berger : Easy Clean, Akzonobel DULUX : Akzonobel Dulux Professional Solitaire Stain Resist
36	Premium Acrylic Emulsion Paints (Interior)	Asian Paints : Royale Luxury Emulsion, Nerolac : Impression , Berger : Silk, Akzonobel Dulux : Akzonobel Dulux Velvet Touch
37	Textured Exterior Paint	Asian paints, Nerolac, Berger Paints, Ultratech Paints, Luxture, Akzonobel Dulux
38	Acrylic Smooth Exterior Paint	Asian Paints : Apex/ Professional Premium Exterior Emulsion, Nerolac : XL,Berger : Weather Coat, Akzonobel Dulux : Professional Weather shield
39	Premium Acrylic Smooth Exterior Paint with Silicon additive.	Asian Paints : Apex Ultima Nerolac : XL Total Berger : Weather Coat all guard Akzonobel Dulux : Professional Ultra Clean
40	Synthetic Enamel Paint	Asian : Apcolite Premium gloss enamel, Nerolac : Synthetic Hi gloss Berger : Luxol Hi gloss Akzonobel Dulux : Akzonobel Dulux Gloss
41	Cement Primer	Nerolac, BP White(Berger), Decoprime WT(Asian), White primer (ICI)
42	Steel Primer(Red Oxide Zinc Chromate Primer)	Asian Paints, Nerolac, Berger, ICI
43	Wood Primer	Asian Paints (Wood Primer - White/Pink), Berger, ICI, Nerolac,

S.No	Material	List of Preferred Make
44	Epoxy Paint	Asian, Nerolac, Berger, ICI, Kansai Akzo Nobel
45	Fire Paint	Caboline, Akzo Nobel Coatings India Ltd., PROMAT, Jotun, Asian Paints, Berger
46	G.I. / M.S. Pipe	Tata, Jindal (Hisar)
47	G.I. Fittings	Unik, AVR, Zoloto, UCO
48	HDPE Pipes	Reliance, JainPipes, ORIPLAST, Supreme
49	DI PIPES	Electrosteel, Jindal, TATA DUCTURA, Kapilansh, Kesoram, NECO
50	DI Fittings	Electrosteel, Jindal, TATA DUCTURA, Kapilansh, Kesoram, Neco
51	UPVC pipe and Fittings	Astral, Supreme, Ashirwad, Finolex
52	Centrifugally Cast (spun) Iron Pipes & Fittings	NECO, Kapilansh, SKF
53	C.I. Manhole covers, frames & GI Gratings	NECO, RAJ Iron Foundary Agra, BIC, Kapilansh
54	SFRC Manhole covers & gratings	KK, JAIN, PARGATI
55	CP Brass Fittings (Superior Range)	Jaquar, Grohe, Roca, kohler
56	CP Brass Fittings (Normal Range)	Jaquar, CERA, Hindware, Roca
57 (a)	Sanitary ware, Fittings & accessories (Superior Range)	Jaquar, Kohler, Roca, CERA
57 (b)	Sanitary ware, Fittings & accessories (Normal Range)	Jaquar, Hindware, CERA, Roca
58	Mirror Glass	Atul, Modi Guard, Jaquar, CERA
59	CPVC Pipe & fitting	Astral, Supreme, Finolex
60	Stainless Steel Sink	Neelkanth, Niralli, CERA
61	RCC Pipes (NP-2)	Lakshmi, Sood&Sood, Jain Pipe Co. (Newai), Mahaveer Enterprises (Newai),Work well spun pipes, Pali.
62	UPVC Doors & Windows (PROFILE makers & their authorized Fabricators only)	Fenesta, KOMERLING, RHEAU, Aluplast, VEKA.
63	Extruded Polystrene Insulation Board	Dowcorning, Supreme, Texas, Analco
64	Heat Resistant Tiles	Johnson, Swastik, Thermatek, Oswal
65	Gypsum Plaster	Ferrous Crete, Gyproc Saint Gobain, Boral, UltraTech-Birla white, JK lakshmi
66	Floor hardener	Ironite, Ferrok, Hardonate
67	Modular Expansion Joint	Herculus, Sanfield India Ltd. Vexcolt, Tristar
68	Glass Wool	Dow Corning, U.P. Twiga, Isover
69	UPVC doors and window hardware	Rotto, Dorset, Kinlong, Dorma
70	AAC Block Adhesive	Xtralite, Orifix, Ardex Endura, Ferrous Crete, UltraTech, MYK haticte

S.No	Material	List of Preferred Make
71	AAC Block	UltraTech, Orilite, Magicrete, HIL-Aerocon,seporex (Buildtex)
72	Stone Polymer Composite tile Flooring	Welspan, Fundermax, Egger
73	Artificial/Synthetic Grass	Welspan, Floortex, Matrix turf

*** Batch test certificate of Paints and Primer shall be supplied along with each lot.**

Note:

1. The Contractor shall obtain approval from the Engineer-In-Charge before placing order for any specific material or engaging any of the specialized agencies wherever applicable.
2. The Engineer-In-Charge may approve any material equivalent to that specified in the tender subject to proof being offered by the Contractor for equivalence tohis satisfaction.
3. Unless otherwise specified, in the tender document all the materials which are ISI Marked shall be used in the work and if the ISI marked materials are not available, materials conforming to IS shall be used, and for the materials which are neither ISI marked nor conform to IS, the manufacturer's Specification shall be followed.
4. Wherever makes and models have been specified in BOQ, the agency has to supply them, in such case list of preferred makes shall not be applicable.

PREFERRED MAKES OF EQUIPMENT & MATERIALS FOR ELCTRICAL WORK:

S. No.	Details of Materials / Equipment	Manufacturer's Name / Make
A.	**Internal El**	
1.	MCB, Isolator, Industrial Plug Socket, RCCB, RCBO's	Schneider Electric ACTI-9 (N) / Legrand (DX3) / Hager/ L&T (Exora) / C&S (Win Trip 1/2) / ABB(S200M) / Siemens (Betaguard) /MK(Honeywell)
2.	MCBDB & Loose Wire Box	Legrand (EKINOX-3) / L&T (EXORA) / C&S (Win Class)/ Hager (Novello) / Schneider (ACTI-9) / ABB(Elegance) / Siemens / MK(Honeywell) **(Note : MCBs Make shall be same as DBs Make)**
3.	Change Over Switches	L&T / Havells / HPL / Hager / C&S / Socomac / ABB / ASCO
4.	Automatic Transfer Switch (ATS)	Asco (Schneider) / Russel / Socomac / Hager / ABB / Legrand / L&T / Havells
5.	FRLS PVC insulated copper conductor single core cable for wiring. (ISI marked)	Finolex / RR Kabel / KEI /Havells / Polycab / Bonton / Grandlay
6.	Armoured/Unarmoured telephone cable, Coaxial Cable/LAN Cable	Delton / Finolex / RR Kabel / Polycab/Havells / Bonton / Grandlay / KEI
7.	MS Conduit (ISI Marked) with heavy duty MS conduit pipe accessories	BEC / NIC / AKG **/** RMCON **(Note : The make of accessories will be same thatof conduit pipe & will comply to IS / 4768 part 2 2003)**
8.	PVC Conduit (ISI Marked) with heavy duty PVC conduit pipe accessories	AKG / Norpack / BEC / Polycab / Precision / Astral /Finolex / Pressfit
9.	Modular Switch, Socket/TelephoneSocket/ Cable TV Socket/ Data outlet Socket / Fan Regulator/ G.I. Boxes Etc.	Legrand (Arteor) / Schneider Electric (Zencelo) /Honeywell- MK (Elements)
10.	Modular MCB	Legrand / Schneider Electric /MK-Honeywell
11.	Selector Switch & Toggle switch	Salzer (Larsen & Toubro) / Siemens / Kaycee / C&S /Schneider
12.	PVC Trunking	Mk (Honeywell)/ Legrand / Schneider
13.	GI pipe (ISI Marked)	Tata / Jindal (Hissar) / SAIL
14.	Paints	Asian / Berger /Dulux
15.	Terminal Blocks and Connectors	Elmax / Wago / Hensel / Connectwell
16.	Phenolic Laminated Sheet / Bakelite Sheet	Hylam / Formica (P-I Grade) / Mylam / Greenlam
17.	Cat-6 /Cat-6A Cable, Wires & Fiber Optic Cable	Amp / Beldon / Legrand / Krone Communication / Molex
18.	Indoor and Outdoor LED fittings /LED Lamp/ LED Tube	Wipro / Philips / Trilux / Regent / Osram / Lighting Technology (LT)
19.	Decorative Indoor/Outdoor LED fitting	Wipro / Philips / Trilux / Regent / Osram / Lighting Technology (LT)/Bajaj/Havells/Crompton

20.	Exhaust Fan/Fresher Fan	Havells / Crompton Greaves / USHA / Almonard / Alstom
21.	BLDC Ceiling Fan	Havells / Crompton Greaves / Atombarg Gorilla / Superfan / Usha
22.	Wall Bracket Fitting	Havells / Wipro / Decon / Jaquar / Philips / Bajaj / Trilux
23.	Geysers	Racold / CG / Havells / Jaquar / AOSmith / Usha / Venus
24.	Air circulator / Wall Fan	Havells / Usha / Almonard / Crompton / Orient
25.	LED Street Lights with inbuilt Solar Panel & Controller	Havells / Crompton / Philips / Wipro / Bajaj
26.	Ornamental Pole (Factory Finish)/ Hot Dipped Galvanized Octagonal Pole /HighMast	Valmont / Philips / Crompton / Wipro / Bajaj /Keselec / Singh profile /Transrail
27.	Hot Dipped Galvanized Octagonal Pole /High Mast	Valmont / Philips / Crompton / Wipro / Bajaj / Keselec / Singh profile /Transrail/Utkarsh
28.	Polycarbonate Junction Box / Enclosure / Pole box	Hensel / Spelsberg / Naptune-Bals / Sintex/Standard
B.	**POWER CABLE**	
1.	XLPE insulated PVC sheathed Alum. / Copper Conductor Armored cable of 1.1 KV grade	Finolex / Polycab / KEI / Havells / Grandlay / RRKabel /Bonton/LAPP/RPG
C.	**HT Cable**	
1.	H.T. cable (ISI marked)	Finolex / CCI / Polycab / KEI / Havells / RR Kabel / Grandlay / LAPP/RPG
D.	**Sub Station Equipment**	
1.	LT Panel / Meter Panel Board/Outdoor Feeder Pillar / APFC Panels (Above 200 Amp Incomer)	Tricolite Electrical Industries / Control & Switchgears Electrical Ltd. / Sterling & Wilson / Milestone / Adlec Control System Pvt. Ltd. / Advance Panels & Switchgear Pvt. Ltd. Haridwar / BSPL (Bhopal)/ Engineers & Engineers (Electricals) Pvt. Ltd. / Peaton Electrical Co. Ltd. /Dynamic Electropower Pvt. Ltd./ Pristine/ Neptune /Pyrotech India Electronic pvt Ltd.Udaipur
2.	LT Panel / Meter Panel Board/Outdoor Feeder Pillar / APFC Panels (Upto 200 Amp Incomer)	Tricolite Electrical Industries / Control & Switchgears Electrical Ltd. / Sterling & Wilson / Milestone / Adlec Control System Pvt. Ltd. / Advance Panels & Switchgear Pvt. Ltd. Haridwar / BSPL (Bhopal)/ Engineers & Engineers (Electricals) Pvt. Ltd. / Peaton Electrical Co. Ltd. /Dynamic Electropower Pvt. Ltd./ ASPL (Associated Switchgears & Projects Ltd.) / Pristine / Neptune /Allied engineers/ Pyrotech India Electronic pvt Ltd.Udaipur/Johns electric co.pvt Ltd Jaipur
3.	Rising main / Bus Trunking	C&S / L&T / Schneider / Legrand / Godrej

4.	Moulded Case Circuit Breaker (MCCB) Thermal Release / Microprocessor based (Ics=Icu=100%)	Schneider Electric (CVS Series) / Siemens (VL Series) / L&T (D-Sine) / Legrand (DPX3) / C&S (Winbreak 1/2) / ABB (TMax) / Hager
5.	Contactor/Relay /Timer	Schneider Electric / L&T / BCH / Siemens / Legrand / ABB / C&S / Hager/
6.	Potential Transformers / Current Transformer	Automatic Electric / Matrix / Precise / L&T / Kappa /Procom
7.	LED type indicating lamps / Push Button	Schneider Electric / L&T / Siemens / Vaishno
8.	Digital Meters (A/V/PF/Hz/KW/KWH)	Conzerv / Larsen & Toubro / Secure / AE / Socomac / Neptune /Hager
9.	Fasteners / GI Clamps	Hilti / Fisher / Chilli /OBO
10.	D.W. Corrugated HDPE Pipe (ISI marked)	REX / Dura plast / Zenduct / Gemini(Triputi)/ Duraline / Keshav Kripa Polyplast (LLP)
11.	Transformer (Oil / Dry type) **Upto 250 KVA**	Crompton / ABB / Raychem / Schneider / Voltamp /Uttam Bharat / United / Bharat Bijlee/RTS-Jaipur
12.	Transformer (Oil / Dry type) Above **250 KVA**	Crompton / ABB / Schneider / Sterling & Wilson / Raychem / Bharat Bijlee /Voltamp
13.	HT Panel / Ring Main Unit	Siemens / ABB / L&T / Schneider / C&S
14.	HT End Termination / Cable Jointing Kit	Reychem / Denson / Cap Seal / Safekei / 3M
15.	ACBs	Siemens (3WL–ETU45B) / L&T (U-Power-OMEGA MTX 4.0) / ABB (Emax)PR122 / Legrand (DMX^3 MP4) / Schneider (MVS Series) / C&S (Winmaster 2/3)
16.	Rubber Mat (MV / HT)	Jyoti / Deep Jyoti / Premier (duly ISI marked)
17.	Fire Extinguishers	Minimax / Safex / Life Guard / Kanex / Omex / Firequip (ISI Mark)
18.	Capacitors & Reactors / APFC Relay	EPCOS/ L&T / DUCATI / ABB / Siemens / Schneider / Neptune
19.	Cable Glands /lugs .	Baliga lighting / Comet / Cosmos / Dowells / Lapp / Gripwell
20.	Perforated Cable Tray	Pilco / Slotco /RMCON/ BEC / Steelways / OBO
21.	SS Wire mesh cable Tray /Raceways	Legrand / OBO / MK
22.	Programmable Logic Controller (PLC)	Siemens / Woodward / Allen / Bradley/ Legrand / OBO / MK-Honeywell
E.	**DG Set**	
1.	Diesel operated Power Generating Engine Upto 200 KVA	Cummins India / Caterpillar / Ashok Leyland / KOEL
2.	Diesel operated Power Generating Engine Above 200 KVA	Cummins India / Caterpillar / KOEL / Volvo Penta
3.	Alternator	Stamford / Lerroy Sommer / Kirloskar Electric / Caterpillar / Crompton Greaves

4.	DG Set Canopy / Enclosure & AMF Panel	As per OEM / OEA of respective DG Set manufacturer
5.	Alarm Annunciator	Advani Oralikon / Larsen & Toubro / Minilec
F.	**Fire Fighting Equipment**	
1.	MS Pipe/GI Pipe	Tata / Jindal Hisar / SAIL
2.	Forged Steel Fittings / Flanges	Johnson Industries / VS Forge / JK Forging / Trueforge
3.	Pipe Hangers	Chilli / Hilti / OBO / Fisher
4.	Gun Metal / Brass / NRV/ Gate Valve/Check Valve/Foot Valve (ISI marked)	Sant / Leader / Advance / Audco / Zoloto/Honeywell
5.	CI Sluice Valve/ Butterfly Valve/ NRV/ Y - Stainer (ISI marked)	Audco / Advance / Kirloskar / Zoloto/Honeywell/Kartar/Kalpna
6.	Fire pump/Jockey pump	Kirloskar/KSB/Matherplatt(Wilo)/Crompton
7.	Electrical Motor	ABB / Siemens / Kirloskar / Grundfos / Crompton / Bharat Bijli/ Matherplatt(Wilo)
8.	Diesel Engine for Fire Pump	KOEL / Ashok Leyland / Cummins
9.	Couplings (Tyre – Type)	Lovejoy / Fenner
10.	Anti-Vibration Mountings / Neoprene Gasket	Kanwal Industrial Corporation / Dunlop / GERB / Resistoflex
11.	Pressure Switch (ISI marked)	System Sensor / Indfoss / Danfoss / Switzer
12.	Pressure Gauge (ISI marked)	H Guru / Fiebig / Dwyer/ Hebig/Honeywell
13.	Landing Valve/Fire Hose coupling /First Aid Hose Reel and Drum /Shut of Nozzle /Branch Pipe/Fire Brigade inlet / RRL Hose Pipe / Thermoplastic Pipe (ISI marked)	New Age / Safeguard / Lifeguard / Padmini / Omex /Minimax/Safex
14.	Water Flow Switch (FM / UL listed)	System Sensor / Switzer / Rapid Control / Honeywell/ Danfoss
15.	Pipe coat	Pypcoat / Makphalt / Rustech
16.	Level Controller & Indicator (Water) (ISI Marked)	Auto Pump / Cirrus Engineering / Techtrol
17.	Fire Sealent	Promat / Birla / 3M / Hilti
18.	Single Phase Preventer / Water level guard	Schneider Electric / L&T / Siemens / ABB / Minilec
19.	LT Jointing Kit / Termination	Reychem / Denson / Cap Seal / Safekei / 3M
20.	Batteries	Exide / Rocket / HBL / Pulse / Amco / Amaraja
21.	Battery Charger	Statcon / Amarraja / CDC / AE / Expofyn / Thycon India/ Procom/Microtek
22.	Epoxy Paint	Dulux / Berger / Asian / Nerolac
23.	Air Release Valve	Rb / Tbs / Cimbrio / Zoloto
24.	Solenoid Valve / Spray Nozzle	Parker / HD / Tyco / Emersion / Honey Well
25.	Sprinkler Head	HD / Tyco / Viking / Omex / Easy Flex
26.	SS Flexible Drop	HD / Omex / Newage / Tyco / Lifeguard / Easy Flex
27.	Deluge Valve	Tyco / Viking / HD
G.	**Fire Alarm System**	
1.	Addressable Fire alarm control panel / Repeater panel / multi sensing detector /Fault isolator / Strobe light / Hooter /	Johnson Control / Notifier / Siemens / Bosch make

	Manual call box / Response indicator	
2.	Cat-6 /Cat-6A Cable, Wires & Fiber Optic Cable	Amp / Beldon / Legrand / Krone Communication / Molex
3.	HDMI cable	Lightware/AMx/crestron/Extron
4	Fire retardant cable	Finolex / Polycab / KEI / Havells / Grandlay/ RR Kabel //Bonton/RPG/LAPP
5	Amplifire/Speaker	Bosch/Honeywell/Yamaha/JBL/Shure
H.	**Water Supply Pump Sets**	
1.	Mono Submersible/ Submersible pump Set	KSB / CG / Kirloskar / Grundfos / Mather & Platt (Wilo)
2.	DOL / Star Delta Starter	L&T / BCH / Havells / C&S / Siemens / Schneider
3.	Submersible Cable	Finolex / RR kabel / Polycab / Havells / KEI/ Bonton
I.	**EPABX System**	
1.	EPABX System / Master Console Phone/	Siemens / Cisco / Alcatel / Coral / Panasonic / AVAYA/ Matrix
2.	Analog Telephone instrument	Beetal / Tata / Panasonic/ Seimens
3.	18 SWG Sheet (Chrone Box)	Topaz / Coral / Crown
4.	Constant Voltage Transformer	Topaz / Bhurji / Delta / Servokon
J.	**Water Purifier**	
1.	Voltage Stablizer	V Guard / Blue Bird / Voltas / Servocon
2.	RO / Water Purifier	Kent / Aquaguard (Eureka Forbes)
3.	Drinking Water cooler	Voltas / Blue Star / Usha/ Sidwal
K.	**Solar Water Heating System**	
	Solar Water Heating System	Inter solar / Racold / BHEL / Electrotherm / Rashmi/V-guard/Emmvee Solar
L.	**CCTV System**	
1.	IP based Camera (All type) / NVR / Server	Bosch / Pelco / Axis / Sony / Tyco / Honeywell
2.	Conventional Camera/Connect (Dome / PTZ / Bullet / C-mount type)	Bosch / Honeywell / Pelco / Axis / Tyco / Sony
3.	Managed Networking layer Switch	Cisco / DLink / Extreme / Fortinet / Ruckus/HP/Netgear
4.	U Rack	Valrack(Legrand) / EOM Rack / Belchem /Comrack/ Vertiv
M.	**Uninterrupted Power Supply (UPS)**	
1.	Online / Offline UPS	Vertiv / Numeric / Peaguses (Auto Meter)/ Socomac/Eaton/Schneider
2.	SMF Batteries	Exide/Amron/Rocket/HBL/Pulse/Amco/ Amaraja
N.	**Solar Power Generation System**	

1	Solar Power Generation System	REIL / BHEL / BEL / CEL / REC / SOLON / VIKRAM / ABB / Havells
2	Junction Box	VNT / SUN GARNER / OEM of SPV Modules
3	SPV Inverter	Sungrow / Delta / SMA / ABB
4	Module Mounting Structure	As per MNRE / Manufactures Standards
5	XLPE Aluminium / Copper Cable	Finolex / Universal / Nicco / RPG Cables / KEI / Grandlay/LAPP / Polycab
6	Solar Cable XLPO Insulated (DC)	RR Kabel / Polycab / Havells / Finolex / Lapp
O.	**LED TV**	LG / Samsung / Panasonic / Toshiba / Sony
P.	**Air Conditioning System**	
1.	Split Air Conditioner	Hitachi/ Daikin/ O-General/ Mitshubshi / Carrier/ Bluestar
2.	Window Type Air Conditioner	Hitachi/ Daikin/ O-General/ Mitshubshi / Carrier/ Bluestar
3	VRV/VRF	Hitachi/ Daikin/ O-General/ Mitshubshi / Carrier/ Bluestar
4	Copper Pipe	OEM or Daikin/Total line/Maxflow/ Papriwal/
5	CPVC pipe	Ashirwad/Supreme/Astral/Prayag
6	GSS Sheet (For site fabricated duct)	SAIL/Jindal/Tata
7	Aluminium Sheet	Hindalco/Balco/Nalco/Tata/Aditya Birla
8	Flexible duct/Company fabricated duct	Waves/Zeco/Ductofab/Airflow/Caryaire/ Atco
9	Supply/Return Grill/diffuser	Airflow/Trox/Dynacfaft/ Caryaire/Matejoints
	False Ceiling	Armstrong
	LED Signage Board & associated items	
A	ACP board	ALUDECOR/ALSTRONG/ALUCOBOND
B	MS channel, Angle , GI sheet	SAIL/JINDAL/TATA
C	LED Chips	SAMSUNG/CREE/NICHIA/OSRAM/GE

Note- Any item of make other than the above, will be got approved by Engineer-In-Charge installation at site.