

**भारतीय प्रौद्योगिकी संस्थान इंदौर**  
**Indian Institute of Technology Indore**  
**खंडवा रोड, इंदौर- 453552**  
**Khandwa Road, Indore- 453552**

**E-TENDER- MODE**  
**(Second Call)**

**E&M work of construction of prefabricated structure in 3rd floor POD 1E**

**Document to be submitted online for**  
**(Two Bid as per Tender document)**  
**Item Rate**

## INDEX

**Name of work:** E&M work of construction of prefabricated structure in 3rd floor POD 1E

**N.I.T. No.:** - IITI/ IDO/ PR/E/POD1E-ASTRO/ 2023-24/NIT/02A

S. No.	Description	Page No.
1	INDEX	2
<b>PART – A</b>		4
2	Information and instructions for bidders for e-tendering	5-6
3	List of tender document to be uploaded	7
4	Similar work criteria and Document list	8
4	C.P.W.D – 6 for e-Tendering	9-13
5	Integrity Pact & Agreement	14-21
6	CPWD – 7	22
7	Acceptance	23
8	Performa of Schedules	24-29
9	General requirements for the tender	30

<b>PART – B</b>		31
10.	Material and Quality Assurance	32-34
11.	General Terms & Conditions	35-40
12.	Salient/ Mandatory requirement for tender	41-44
13.	Special condition	45-47
14.	List Of Preferred Makes For Civil Works)	48-49
15.	Additional terms & conditions	50-57
16.	<b>Guarantee bonds:</b>	
	(a) Bank Guarantee Bond	58-59

<b>PART- C</b>		60
17.	Schedule of quantities for Electrical & HVAC Works	61-67

**This N.I.T. contains 67 (Sixty-Seven) pages. Pages marked from 1 to 67 pages.  
(Excluding GCC and Correction Slip of GCC)**

APIC,  
IIT Indore

AEE (E),  
IIT Indore

,

AEE, (HVAC),  
IIT Indore

This Item Rate Tender amounting to **Rs. 17,10,767** (Rupees Seventeen Lakh Ten Thousand Seven Hundred Sixty-Seven) is here by approved.

Project-In-charge

IDO, IIT Indore

# ***PART-A***

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

The Project In charge, IDO, IIT Indore on behalf of IIT Indore invites online item rate bids from approved contractors in CPWD, BSNL, MPPWD, and MES, State govt. Bodies & Central PSUs working agency of IIT/ IIM/ RRCAT etc.

S. No.	NIT No.	Name of work & Location	Estimated cost put to tender	Period of completion	EMD Amount	Last date & time of submission of Bid, , and other documents as specified in the Press Notice.	Time and date of opening of eligibility Bid / documents
1	2	3	4	6		7	9
1	IIT/ IDO/ PR/E/POD1E-ASTRO/ 2023-24/NIT/02A	E&M work of construction of prefabricated structure in 3rd floor POD 1E	<u>Estimated Civil cost: Rs. 17,10,767 (Rupees Seventeen Lakh Ten Thousand Seven Hundred Sixty-Seven</u>	45 Days	RS 35,000/- Thirty Five Thousand Only <a href="https://forms.edugfix.com/indoreiit/add">https://forms.edugfix.com/indoreiit/add</a>	13.12.2023 03:00 PM	14.12.2023 at 03:00 PM

- 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.

2. Information and Instructions for bidders posted on website shall form part of bid document.  
The bid document consisting of plans, specifications, schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website [http://iiti.ac.in/tender\\_estate](http://iiti.ac.in/tender_estate) & <https://eprocure.gov.in/eprocure/app> free of cost
4. Those contractors not registered on the website mentioned above, are required to get registered beforehand. If needed, they can be imparted training on online bidding process as per details available on the website.
5. The intending bidder must have valid class-III digital signature to submit the bid.
6. On opening date, the contractor can login and see the bid opening process. After opening of bids, he will receive the competitor bid sheets.
7. Contractor can upload documents in the form of JPG format and PDF format.
8. If a tenderer does not quote any percentage above / below on the total amount of the tender or any section / sub head in item rate tender, the tender shall be treated as invalid and will not be considered as lowest tender.
9. GST or any other tax payable on construction materials/contract/any activity related with this contract shall be paid by the contractor and Government shall not entertain any claim, whatsoever, in this regard. The contractor shall quote his rates in accordance with Government of India, Ministry of Finance, Department of Revenue, Central Board of Excise & Customs Notification no.10/2017-Central Tax dated 28 June, 2017.

**LIST OF DOCUMENTS TO BE UPLOADED WITH TECHNICAL BID (for technical evaluation)**

<b>Sl. No.</b>	<b>List of Documents</b>
1*	<b>Certificate GST No.</b>
2*	<b>EMD Rs. 35,000/-</b> (Firms submitted the EMD for against the previous NIT for said work didn't require to submit the EMD again. The same EMD will be considered for this NIT. The bidder must submit/upload the receipt of EMD deposit).
3*	<b>Registration</b>
	<b>Form A:-Financial information</b>
4*	i) Average Annual turnover 50% of estimated cost of Tender Last Five Year
5*	<b>Bank Solvency Certificate VALUE SHOULD BE 40% of Estimated Cost</b>
6*	<b>Details of Eligible Work or Similar Work</b>
	<b>Successfully completed similar work with in last Seven years in CPWD, BSNL, MPPWD, MES, State Govt. Bodies &amp; Central PSUs working agency of IIT/ IIM/ RRCAT-</b>
	i) one similar work of value 80% of estimated cost of tender. <b>OR</b>
	ii) Two similar work of value 60% of estimated cost of tender. <b>OR</b>
	iii) Three similar work of value 40% of estimated cost of tender
7	<b>Structure and organization of the firm/company</b>
8*	<b>Certificate of EPF and ESIC</b>
9*	<b>Labour Registration/ undertaking</b>
10*	<b>Undertaking of compliance of all the statutory laws to be submitted on the letter head of the organization with seal &amp; signature.</b>
11*	<b>Loss and Profit certificate (certified by CA for Last Five years)</b>
12*	<b>Notarized /Self Attested on 100 Rs stamp regarding joint venture (in last Five years), Joint venture are not allowed</b>
13*	<b>Notarized / Self Attested on 100 Rs stamp regarding firm are not black listed in last Five years</b>

- The Document should be uploaded in prescribed serial number and no extra number of document/ pages will be uploaded.
- Summary Sheet will be attached with uploaded document
- \* MANDATORY

- ❖ **Registration No. Means:** MSME, CPWD, PWD, Society firm and similar related to the construction/ civil work.
- ❖ **Bank Solvency:** Current Financial Year
- ❖ **Document for Eligibility of Similar Work :** Only Defined Document (with Seal signed by Client ), up to the date of publication of tender is considered. Completion Certificate of Work (Sealed and Signed)
- ❖ **Financial Information :**
  1. CA Certified Summary sheet year wise.
  2. Profit/ loss Statement by CA last 05 Year
  3. ITR returns of last 05 years
- ❖ **Similar Works means :**  
Electrical & HVAC work



## CPWD-6 FOR e-Tendering

Item rate bids are invited by the Project In charge, IDO, IIT Indore on behalf of IIT Indore invites online item rate bids from approved registered contractors in CPWD, BSNL, MPPWD, and MES & Central PSUs working agency of IIT/IIM/RRCAT etc. for “**E&M work of construction of prefabricated structure in 3rd floor POD 1E**”.

1. The enlistment of the contractors should be valid on the last date of submission of bids. In case, the last date of submission of bids is extended, the enlistment of contractor should be valid on the original date of submission of bids.
- 1.1 The Item rate work is estimated to cost **Rs 17,10,767/-**. This estimate, however, is given merely as a rough guide.
2. Agreement shall be drawn with the successful bidders on prescribed Form No. CPWD 7, which is available as a Govt. of India Publication and also available on website [www.cpwd.gov.in](http://www.cpwd.gov.in). Bidders shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
3. The time allowed for carrying out the work will be **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 bid documents.
4. The site for the work is available or made available in parts.
- (ii) The architectural and structural drawings shall be made available in phased manner, as per requirement of the same as per approved programmer of completion submitted by the contractor after award of work.
1. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract Form can be seen on website [http://iiti.ac.in/tender\\_estate](http://iiti.ac.in/tender_estate) & [ido.tender@iiti.ac.in](mailto:ido.tender@iiti.ac.in) free of cost.
6. After submission of the bid, the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified.
7. While submitting the revised bid, contractor can revise the item rate quoted by him any number of times for any/all sub-heads but before last time and date of submission of bid as notified.

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

Copy of Enlistment Order and certificate of work experience and other documents as specified in the bid document shall be scanned and uploaded to the e-Tendering website within the period of bid submission. Further, certified copy of all the scanned and uploaded documents as specified in bid document shall have to be submitted by the lowest bidder only within a week physically in the office of tender opening authority.

The bid submitted shall be opened at **03:00 PM on 14.12.2023**

8 The bid submitted shall become invalid if:

(i) The bidder is found ineligible.

(ii) The bidder does not upload all the documents (including GST registration certificate and acknowledgement of up to date filed return) as stipulated in the bid

(iii) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest bidder in the office of bid opening authority.

(v) If a tenderer does not quote any item rate on the total amount of the tender or any section / sub head in item rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.

(iv) The contractor whose bid is accepted will be required to furnish performance guarantee of 3% (Three Percent) of the bid amount within the period specified in Schedule F. This guarantee shall be in the form of any scheduled bank/Demand Draft of any scheduled bank/Pay order of any Scheduled Bank of any scheduled bank (in case guarantee amount is less than Rs. 1, 00,000/-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case, the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F', including the extended period if any. The contractor whose bid is accepted will also be required to furnish either copy of applicable licenses / registrations or proof of applying for obtaining labour license, registration with EPFO, ESIC and BOCW welfare board including Provident Fund Code No. if applicable and also ensure the compliance of aforesaid provision by the sub-contractors, if any engaged by the contractor for the said work and programme chart (Time and progress) within the period specified in schedule F.

Description of the work is as follows: - **Electrical & HVAC work of construction of prefabricated structure in 3rd floor POD 1E**

Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and, in general, shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidders shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidders implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.

13. The competent authority on behalf of IIT Indore does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids, in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidders, shall be summarily rejected.

14. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable for rejection.

15. The competent authority on behalf of IIT Indore reserves to himself the right of accepting the whole or any part of the bid and the bidders shall be bound to perform the same at the rate quoted.

16. The contractor shall not be permitted to bid for works in the CPWD Circle (Division in case of contractors of Horticulture/Nursery category) responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazetted officer in the Central Public Works Department or in the Ministry of Urban Development. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.

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

18. The bid for the works shall remain open for acceptance for a period of One Eighty Days (180) days from the date of opening of financial bids. If any bidders withdraw his bid before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the bid which are not acceptable to the department, and then the Government shall, without prejudice to any other right or remedy. Further, the bidders shall not be allowed to participate in the rebidding process of the work.

19. This notice inviting Bid shall form a part of the contract document. The successful bidders/contractor, on acceptance of his bid by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of:-

(a) The Notice Inviting Bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.

(b) Standard C.P.W.D. Form 7 or other Standard C.P.W.D. Form as applicable.

## **20. For Composite Bids**

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

20.1.2 The bid document will include following Two components:

Part A:- CPWD-6, CPWD-7 including schedule A to F for the major component of the work, Standard General Conditions of Contract for CPWD 2020 as amended/modified up to receipt of tender

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

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

20.1.3 The bidders must associate themselves with agencies of the appropriate class eligible to bid for each of the minor component individually as per NIT Conditions.

20.1.4 The eligible bidders shall quote percentage rate for all subheads/components of work.

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

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

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

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

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

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

20.1.11 Running payment for the major component shall be made by PIC of major discipline to the main contractor. Running payment for minor components shall be made by the Engineer-in-charge of the discipline of minor component directly to the main contractor.

20.1.12A. The Item Rate work shall be treated as complete when all the components of the work are complete. The completion certificate of the composite work shall be recorded by Project-in-charge after record of completion certificate of all other components.

20.1.12B. The final bill of whole work shall be finalized and paid by the IIT Indore. Project-in-charge of minor component(s) will prepare and pass the final bill for their component of work and pass on the same to the PIC of major component for including in the final bill for composite contract.

## INTEGRITY PACT

To,

.....,  
.....,  
.....

**Sub:** NIT No. IITI/ IDO/ PR/E/POD1E-ASTRO/ 2023-24/09 for the work E&M work of construction of prefabricated structure in 3rd floor POD 1E.

Dear Sir,

It is here by declared that IIT Indore is committed to follow the principle of transparency, equity and competitiveness in public procurement.

The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender/bid documents, failing which the tenderer /bidder will stand disqualified from the tendering process and the bid of the bidder would be summarily rejected.

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

Yours faithfully

Project-in-Charge

To,  
Project-in-Charge,  
.....,  
.....

**Sub:** Submission of Tender for the work E&M work of construction of prefabricated structure in 3rd floor POD 1E

Dear Sir,

I/We acknowledge that IIT Indore is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document.

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

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

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

Yours faithfully

(Duly authorized signatory of the Bidder)

To be signed by the bidder and same signatory competent / authorized to sign the relevant contract on behalf of IIT Indore.

**INTEGRITY AGREEMENT**

This Integrity Agreement is made at..... On this..... Day of..... 20.....

BETWEEN

IIT Indore represented through Project-in-Charge... ..  
(Here in after referred as the "Principal/Owner", which expression shall unless repugnant to the meaning or context hereof include its Successors and permitted assigns)

AND

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

duly authorized signatory) "Bidder/Contractor" and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

Preamble

WHEREAS the Principal / Owner has floated the Tender ----- (\*) ----- (hereinafter referred to as

"Tender/Bid") and intends to award, under laid down organizational procedure, Construction of standard platform in pantry room with sink and water inlet and outlet facility

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as "Integrity Pact" or "Pact"), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

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

\* To be filled by Project –in - charge.



## **Article 1: Commitment of the Principal/Owner**

The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:

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.

The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.

The Principal/Owner shall endeavor to exclude from the Tender process any person, whose conduct in the past has been of biased nature.

If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

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

- 1) It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Government / Department all suspected acts of fraud or corruption or Coercion or Collusion of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
- 2) The Bidder(s)/Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles his participation in the Tender process and during the Contract execution:
  - a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/ Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.

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

### **Article 3: Consequences of Breach**

- 1) Without prejudice to any rights that may be available to the Principal/Owner under law or the Contract or its established policies and laid down procedures, the Principal/Owner shall have the following rights

In case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the Principal/Owner's absolute right:

If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days' notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. Such exclusion may be forever or for a limited period as decided by the Principal/Owner.

2) Forfeiture of Performance Guarantee/Security Deposit: If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Performance Guarantee and Security Deposit of the Bidder/Contractor.

3) Criminal Liability: If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

#### **Article 4: Previous Transgression**

1) The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.

2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Bidder/Contractor as deemed fit by the Principal/ Owner.

3) If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

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

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

## **Article 6- Duration of the Pact**

This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 15 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded. If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority, IIT Indore.

## **Article 7- Other Provisions**

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

**Article 8- LEGAL AND PRIOR RIGHTS**

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contact documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

.....

(For and on behalf of Principal/Owner)

.....

(For and on behalf of Bidder/Contractor)

WITNESSES:

1.....  
(Signature, name and address)

2.....

(Signature, name and address)

Place:

Dated:

## INDIAN INSTITUTE OF TECHNOLOGY INDORE

**ITEM RATE TENDER & CONTRACT FOR WORKS-**

1.	Tender for composite work of:	E&M work of construction of prefabricated structure in 3rd floor POD 1E
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- (i) To be submitted by 3:00 P.M. hours on 13.12.2023 upload at <http://iiti.ac.in/tenderIDO> & <https://eprocure.gov.in/eprocure/app>
- (ii) To be opened at 03:00 P.M. hours on 14.12.2023 in the office of ID Office IIT Indore

**TENDER**

I/We have read and examined the notice inviting tender, schedule, A, B, C, D, E & F Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, Special conditions, Schedule of Rate & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the IIT Indore within the time specified in Schedule 'F' viz., schedule of quantities and in accordance in all respect with the specifications, designs, drawing and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of contract and with such materials as are provided for, by, and in respect of accordance with, such conditions so far as applicable.

We agree to keep the tender open for 75 (Seventy Five) days from the due date of its opening and not to make any modification in its terms and conditions.

Further, I/We agree that in case of forfeiture of 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 IIT Indore in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Project -in-Charge shall be free to forfeit the entire amount of Performance Guarantee.

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

Dated

Signature of Contractor

Witness:

Postal Address

Address

Occupation

# ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the IIT Indore for a sum of `

.....\*.....(Rupees.....\*.....  
.....).

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

(a) \*

(b) \*

(c) \*

For & on behalf of IIT Indore

Signature .....\*

Dated: \*

Designation .....\*

\*To be filled in by PIC

## PROFORMA OF SCHEDULES

(Separate Performa for Civil, Works in case of Item Rate Tenders)  
(Operative Schedules to be supplied separately to each intending tenderer)

### SCHEDULE 'A'

(Civil Work: - Part C of this tender document)

Schedule of quantities (as per PWD-3)

### SCHEDULE 'D'

Extra schedule for specific requirements/document for As attached in tender form

The work, if any.

### SCHEDULE 'E'

Reference to General Conditions of contract  
–

GCC for CPWD 2020 CONSTRUCTION WORKS  
as amended/modified up to receipt of tender

**Name of Work:** - E&M work of construction of prefabricated structure in 3rd floor POD 1E

<b>Estimated cost for work::</b>	Electrical & HVAC Work	<b>Rs. 17,10,767</b>
Total		
<b>Performance Guarantee</b>	3% of the tendered value of the work	
<b>Security Deposit</b>	2.5% of the tendered value of the work	

Table of Mile stone(s)			
Mile stone No.	Description of Mile stone	Time allowed from date of start (Days)	Amount to be withheld in case of non-achievement of milestone
1.			
2.			
3.			

Note: If the Agency will be failed in achieving the milestone No 1&2, then the respective amount of milestone shall be forfeited and not to be payable.



## SCHEDULE 'F'

### GENERAL RULES & DIRECTIONS:

Officer inviting tender	Project-in- charge, IIT Indore
Maximum percentage of quantity of items of work to be executed beyond which rates are to be determined in accordance with Clause 12.2.& 12.3	NA

### Definitions:

2(v) Engineer-in-Charge

**Project –in - Charge ,  
IIT Indore**

2(vii) Accepting Authority

**Director,  
IIT Indore**

2(x) Percentage on cost of materials and labour to cover all overheads and profits

15% (Fifteen Percent)

2(xi) Standard Schedule of Rates:

Civil Items of Work:

D.S.R. 2021 for civil works & CPWD DSR 2022 (E&M) with Up-to-date correction slips.

2(xii) Department:

CPWD Delhi Schedule of Rates-2021, 2022 ( E&M) & M.R.

9(ii) Standard CPWD contract Form:

ID Office, IIT Indore

GCC 2020, CPWD form 7 as modified & corrected up to receipt of tender

- Clause 1
- i) Time allowed for submission of Performance Guarantee program chart (Time and Progress) And applicable labour licenses/registration, Registration with EPFO, ESIC & BOCW welfare Board including Provident Fund Code No., if applicable or proof of applying thereof from the date of issue of letter of acceptance-7 Days
  - ii) Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period as provided in (i) above-5 Days

Authority for fixing Compensation under Clause 2		<b>Project –in – Charge , IIT Indore</b>
Clause 2 A	Whether Clause 2A shall be applicable	No
Clause 5	Number of days from the date of issue of letter of acceptance for reckoning date of start	2nd Day

Mile stone/Bar Chart(s)- As per construction programmed on

Time allowed for execution of work 03 Month

**Authority to decide**

- (i) Extension of time **DOID, IIT Indore** or his successor  
Thereof
- (ii) Rescheduling of mile stone
- (iii) Shifting of date of start in case of delay in handing over of site** **Project –in-Charge, IIT** or his successor there of

<b>Clause 6, 6A</b>	<b>Clause applicable</b>	<b>Clause 6 A</b>
<b>Clause 7</b>	Gross work to be done together with net payment/Adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment	Civil Rs. 5.00 lacs
<b>Clause 7A</b>	Whether clause 7A shall be applicable.	Yes
<b>Clause 10A</b>	List of testing equipment to be provided by the Contractor at site lab.	Yes
<b>Clause 10 B (ii) &amp; 10B iii)</b>	Whether clause 10-B (ii) shall be applicable. Whether Clause 10-B (iii) shall be applicable.	No No
<b>Clause 10 C</b>	Component of labour expressed as percentage of value of work	25%

Note: Payment under this clause is admissible when Contractor submits proof of having paid wages due to Every worker through bank or ECS or online transfer to His bank account.

**Clause 10CA-Not applicable**

<b>S.No.</b>	<b>Material covered under this clause</b>	<b>Base Price of all Materials covered under clause 10 CA* as notified by CE</b>
1.	Cement:-	
	(ii) Cement (PPC)	N.A.
2	Reinforcement Bars TMT-Fe 500-D	
	(i)12 mm Primary Manufacturer	N.A.
3	Structure Steel	N.A.

\* Includes cement component used in RMC brought at site from outside approved RMC plants, if any.

**Clause 10 CC: NOT APPLICABLE**

**Clause 11** Specification to be followed for execution of work:

**For Civil items of work** CPWD Specifications 2019 Vol. 1 and Vol. 2 with up to date correction slips (Hereinafter called CPWD specifications also)

**Clause 12**

<b>Type of work</b>	<b>Project and Original work</b>	
		Civil
<b>12.2 &amp; 12.3</b>	Deviation limit beyond which clause 12.2 & 12.3 shall apply for building work.	100%
<b>12.5</b>	i) Deviation limit beyond which clause 12.2 & 12.3 shall apply for foundation work (except items mentioned in earth work subhead in DSR and related items)	100%
	ii) Deviation limit for items mentioned in earth work subhead of DSR and related Items	100%

**Clause 16** Competent Authority for Deciding reduced rates:

For Civil items of work

DOID,IIT Indore

**Clause 18** List of mandatory machinery, tools & Plants to be deployed by the contractor at site. N.A.

**Clause 25**

**Constitution of Dispute Redressal Committee (DRC)**

For total claims upto Rs. 25.00 lacs

For total claims more than Rs. 25.00 lacs

Chairman	DOID	IIT Indore
Member	i) ADOID ii) Registrar iii) PIC	IIT Indore

**Clause 32 Requirement of Technical Representative(s) and Recovery Rate**

Cost of work (Rs. in crores)	Requirement of Technical Staff		Minimum experience (Years)	Designation of Technical Staff	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 32	
	Qualification	Number			Figures	Words
	(of major +Minor component)					
More than 1.5 to 5	Graduate Engineer or Diploma Engineer	1 (Electrical-1)f	2 or 5 respectively	Project Manager cum Planning / quality/ Site / billing Engineer	Rs.25,000 per month per person	Rs. Twenty Five Thousand only per month per person

Cost of work in the table above means the agreement amount of the work.

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

**Clause 38**

**(Civil)**

- i) a) Schedule / statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates 2016 printed by CPWD
- D.S.R.2021 for civil works & DSR 2022 (E&M) with up to date correction slips.
- ii) Variations permissible on theoretical quantities
- 3% plus/minus
- 2% plus/minus
- a) Cement for works with estimated cost put to tender not more than ` 5 lakhs.
- 2.5% plus only & nil on minus side.
- For works with estimated cost put to Tender is more than ` 5 lakhs
- 2% plus/minus.
- Nil
- b) Bitumen all works
- c) Steel reinforcement and structural steel Sections for diameter, section and category.
- d) All other materials and Electrical Items.

**RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION**

S. No.	Description of Item	Unit	Rates in figures and words at which recovery shall be made from the Contractor			
			Excess	Beyond	Less	Use
			permissible variation		permissible variation	
1.	Cement:-					
	(ii) Cement (PPC)	MT			N.A	

**2. Reinforcement Bars**

	TMT-fe 500D	MT		
	(I)Primary Manufacturer			N.A
3.	Structure Steel	MT		N.A

## GENERAL REQUIREMENTS FOR THE TENDER

**Name of Work:** E&M work of construction of prefabricated structure in 3rd floor POD 1E.

- 1 The tenderer is advised to read and examine the tender documents for the work and the set of drawings available with Project -in-charge. He should inspect and examine the site and its surroundings by himself before submitting his tender.
- 2 Separate schedule of quantity is included in this tender for civil and electrical items of work. If the tenderer wants to offer any unconditional rebates on their rates, the same should also be offered in the respective components of civil and electrical schedule separately. The contractor shall quote the item rates in figures and words accurately so that there is no discrepancy in rates written in figures and words.
- 3 Time allowed for the execution of work is **45 Days**
- 4 The contractor(s) shall submit a detailed program of execution in accordance with the master programme/ milestone within ten days from the date of issue of award letter.
- 5 Quality of the project is of utmost importance. This shall be adhered to in accordance with the provisions of CPWD specifications and guidelines given in the relevant Para's.
- 6 The contractor (s) shall make his own arrangements for electricity and water required for the execution of work.
- 7 Cement shall be arranged by the contractor himself.
- 8 Steel Reinforcement shall be arranged by the contractor himself.
- 9 The contractor shall submit the running bills in the shape of the computerized MB in pages of A-4 size as per the standard format of department and shall act as per modified clause 6 A of CPWD-7
- 10 ~~Contractor has to provide reinforcement cover blocks made of approved proprietary pre packed free flowing mortars (Concentra as manufactured by M/s Fosroc Chemical India Ltd. or approved equivalent) of high early strength.~~
- 11 The contractor shall comply with the provisions of the Apprentices Act 1961, and the rules and orders issued there under from time to time.
- 12 The contractor shall comply with the provisions of Construction and Demolition Waste Management Rules, 2016 as per Ministry of Environment and Forest notification dated 29/03/2016 issued in exercise of powers conferred by Environment(Protection) Act 1986 ( Available on web address [www.moef.gov.in](http://www.moef.gov.in)). The contractor shall also follow all rules and regulations regarding disposal of C&D waste as per approval of local bodies.

# PART B

## **MATERIAL AND QUALITY ASSURANCE**

1 The contractor shall ensure quality control measures on different aspects of construction including materials, workmanship and correct construction methodologies to be adopted. He shall have to submit quality assurance programme within two weeks of the award of work. The quality assurance programme should include method statement for various items of work to be executed along with check lists to enforce quality control.

2 The Following Conditions to the specification shall however apply:-

3 All stone aggregates shall be of hard stone variety to be obtained from approved quarries at conforming to CPWD specification or as approved by the Engineer- in- charge.

Sand to be used for cement concrete work, mortar for masonry and plaster work shall be of standard quality. Sand shall be obtained from approved quarry.

4 The contractor shall get the source of all other materials, not specified elsewhere in the document, approved from the Engineer-in-Charge. The contractor shall stick to the approved source unless it is absolutely unavoidable. Any change shall be done with the prior approval of the Engineer-in-Charge for which tests etc. shall be done by the contractor at his own cost. Similarly, the contractor shall submit brand/ make of various materials not specified in the agreement, to be used for the approval of the Engineer-in-Charge along with samples and once approved, he shall stick to it.

The contractor shall submit shop drawings of staging and shuttering arrangement, aluminum work, and other works as desired by Engineer In Charge for his approval before execution. The contractor shall also submit bar bending schedule for approval of Engineer –in – charge before execution.

### **Other Laboratories:**

B1 The contractor shall arrange carrying out all tests required under the agreement through the laboratory/ Govt Lab/ Institute as approved by the Engineer-in-Charge and shall bear all charges in connection therewith including charges for testing for all materials.

### **C) Sampling of Materials:**

C1 Sample of building materials fittings and other articles required for execution of work shall be got approved from the Engineer-in-Charge. Articles manufactured by companies of repute and approved by the Engineer-in-Charge shall only be used. Articles bearing BIS certification mark shall be used in case the above are not available, the quality of samples brought by the contractor shall be judged by standards laid down in the relevant BIS specifications. All materials and articles brought by the contractor to the site for use shall conform to the samples approved by the Engineer-in-Charge which shall be preserved till the completion of the work.

C2 The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material/work beyond set out tolerance limit shall be summarily rejected by the Engineer-in-Charge. Same shall be removed from the site within the time as directed by the Engineer-in charge at their own cost.

C3 BIS marked materials except otherwise specified shall be subjected to quality test at the discretion of the Engineer-in-Charge besides. of other materials as per the specifications



described for the item/materials. Wherever BIS marked materials are brought to the site of work, the contractor shall if required, by the Engineer-in-Charge furnish manufacturers test certificate to establish that the material produced by the contractor for incorporation in the work satisfies the provisions of BIS codes relevant to the material and/or the work done.

- C4 The contractor shall procure all the materials in advance so that there is sufficient time to testing and approving of the materials and clearance of the same before use in work.
- C5 All materials brought by the contractor for use in the work shall be got checked from the Engineer-in-Charge or his authorized representative of the work on receipt of the same at site before use.
- C6 The contractor shall be fully responsible for the safe custody of the materials issued to him even if the materials are in double lock and key system.
- C7 The Stone aggregate/stone, sand shall be brought from any quarries subjected to the said materials confirm CPWD specifications.
- 5 The day to day receipt and issue accounts of different grade/brand of cement shall be maintained separately in the standard proforma by the Assistant Engineer-in-Charge of work and which shall be duly signed by the contractor or his authorized representative.
- 6 The contractor shall render all help and assistance in documenting the total sequence of this project by way of photography, slides, audio-video recording etc. Nothing extra shall be payable to the contractor on this account. However cost of photographs, slides, audio / videography etc. shall be borne by the department.
- 7 The contractor shall be fully responsible for the safe custody of materials brought by him issued to him even though the materials are under double lock key system.
- 8 Separate cement registers showing the receipt of the OPC and PPC (as required) shall be maintained at site. The contractor shall construct separate godowns for storage of OPC & PPC at site and nothing extra on this account shall be payable.
- 9 Cement issued shall be for consumption at site only. No cement for factory made items and those not manufactured at site shall be issued.
- 10 In case there is any discrepancy in frequency of testing as given in the list of mandatory test and that in the individual sub-head of work as per CPWD specification 2009 Vol. 1 & 2, the higher of the two frequencies of testing shall be adopted.
- 11) Maintenance of Register:  
All the register of tests to be carried out at construction site or in outside laboratories shall be maintained by the contractor which shall be issued to the contractor by Engineer-in-Charge in the same manner as being issued to CPWD field staff.
- (i) The registers to be issued to the contractor are :
  - a) Materials at site account register.
  - b) Cement register.

- c) Master test registers.
  - d) Cube test register.
  - e) Paint register.
  - f) Any other registers as decided by the Engineer-in-charge relevant to work.
- (ii) All the entries in the register will be made by the designated engineering staff of the contractor and same should be regularly reviewed by JE/AE/EE/PIC.
  - (iii) Contractor shall be responsible for safe custody of all the test registers.
  - (iv) Submission of copy of all test registers, material at site register along with each alternate running account bill and final bill shall be mandatory. These registers should be duly checked by AE (P) in division office.

# GENERAL TERMS AND CONDITIONS

1 The order of preference in case of any discrepancy under “Conditions of Contract” given in standard CPWD contract form may be read as the following:

- i) Nomenclature of items as per schedule of quantities.
- ii) Particular specification and special condition, if any.
- iii) CPWD specifications.
- iv) Architectural Drawings.
- v) Indian standard specifications of B.I.S.
- vi) Sound Engineering Practice.

A reference made to any Indian Standard specification in these documents, shall imply to the latest version of that standard including such revision/amendments as issued by the Bureau of Indian standard upto last date of receipt of tenders. The contractor shall keep at his own cost all such publications of relevant Indian standard applicable to the work at site.

2 Except for the items, for which particular specifications are given or where it is specifically mentioned otherwise in the description of items in the schedule of quantities the work shall generally be carried out in accordance with the “CPWD specifications 2019 Vol. 1 and Vol. 2 (with up to date correction slips). (Hereinafter to be referred to as CPWD specifications) and instructions of Engineer-in-Charge. Wherever CPWD specifications are silent the latest IS codes/specification shall be followed.

3 Unless otherwise provided in the Schedule of Quantities/Specifications, the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the work and nothing extra shall be payable to him on account of the same. Extra payment for centering/shuttering, if required to be done for heights greater than 3.5 m shall however be admissible at the rates arrived at in accordance with clause 12 of the agreement, if not already specified.

4 The proposed building is a prestigious project and quality of work is paramount importance. Contractor shall have to engage well experienced skilled labour and deploy modern T&P and other equipment's to execute the work. Many items like stone masonry & stone cladding works, stone flooring, and structural glazing, PVDF coating aluminum composite panel and other specialized flooring work, Wood work will specially require engagement of skilled workers having experience particularly in execution of such items.

a) The contractor (s) shall inspect the site of work before tendering and acquaint himself with the site Conditions and no claim on this account shall be entertained by the department

b) The contractor (s) shall get himself acquainted with nature and extent of the work and satisfy himself about the availability of materials from kiln or approved quarries for collection and conveyance of materials required for construction.

6. The contractor (s) shall study the soil investigation report for the site, available in the office of the Engineer-in-Charge and satisfy him about complete characteristics of soil and other parameters of site. However, no claim on the alleged inadequacy or incorrectness of the soil data shall be entertained.
- 7 The tenderer shall see the approaches to the site. In case any approach from main road is required by the contractor, the same shall be made good, improved and maintained by the contractor at his own cost. No payment shall be made on this account.
- 8 The contractor (s) shall give to the Municipality, Police and other authorities all necessary notices etc. that may be required by law and obtain all requisite Licenses for temporary obstructions, enclosures etc. and pay all fee, taxes and charges which may be leviable on account of these operations in executing the contract. He shall make good any damage to the adjoining property whether public or private and shall supply and maintain light and other illumination on for cautioning the public at night.
- 9 The contractor shall take all precautions to avoid accidents by exhibiting necessary caution boards day and night, speed limit boards, red flags, red lights and providing barriers. He shall be responsible for all dangers and incidents caused to existing / new work due to negligence on his part. No hindrances shall be caused to traffic during the execution of the work. The contractor shall be responsible for all damages and accidents due to negligence on his part.
- 10 Contractor shall provide permanent bench marks and other reference points for the proper execution of work and these shall be preserved till the end of work. All such reference points shall be in relation to the levels and locations, given in the Architectural and plumbing drawings
- 11 The contractor shall make his own arrangement for obtaining electric connection(s) if required and make necessary payments directly to the department concerned.
- 12 Other agencies doing works related with this project may also simultaneously execute their works and the contractor shall afford necessary facilities for the same. The contractor shall leave such necessary holes, openings etc. for laying/burying in the work, pipes cables, conduits, clamps, boxes and hooks for fan clamps etc. as may be required for the other agencies. Nothing extra over the Agreement rates shall be paid for doing these.
- 13 Some restrictions may be imposed by the security staff etc. on the working and for movement of labour, materials etc. The contractor shall be bound to follow all such restrictions/instructions and nothing extra shall be payable on account of the same.
- 14 The contractor shall fully comply with all legal orders and directions of the Public or local authorities or municipality and adhere to their rules and regulations and pay all fees and charges for which he may be liable in this regard. Nothing extra shall be paid/reimbursed for the same.
- 15 The building work shall be carried out in the manner complying in all respects with the requirements of the relevant by-laws and regulations 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 shall be paid on this account.

- 16 The contractor shall give a performance test of the entire installation(s) as per standing specifications before the work is finally accepted by making his own arrangements for water supply, electricity etc. and nothing extra whatsoever shall be payable for the same.
- 17 If as per local Municipal regulations, huts for labour are not to be erected at the site of work; the contractor shall be required to provide such accommodation at a place as is acceptable to the local body and nothing extra shall be paid on this account.
- 18 It shall be ensured by the contractor that no electric live wire is left exposed or unattended to avoid any accidents in this regard.
- 19 The structural and architectural drawings shall at all times be properly co-related before executing any work. However, in case of any discrepancy in the item given in the schedule of quantities appended with the tender and Architectural drawings relating to the relevant item, the former shall prevail unless otherwise given in writing by the Engineer-in-charge.
- 20 The contractor shall maintain in perfect condition, all portions executed till completion of the entire work allotted to him. Where, however phased delivery of work is contemplated these provisions shall apply separately to each phase.
- 21 The entire royalty at the prevalent rates shall have to be paid by the contractor on all the boulders, metals, shingles, sand etc. collected by him for execution of the work, directly to the Revenue authority or authorized agents of the State Government concerned or the Central Government, as the case may be.

The same shall be deemed to be included in the rates tendered by the contractor and nothing extra will be paid for the same.

## 22. PROGRAMME CHART

- i) 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, equipment and machinery required for the fulfillment of the programme within the stipulated period or earlier as indicated in the mile stones under clause 5 of the contract and submit the same for approval to the Engineer-in-Charge within ten days of the award of the contract.
- ii) The programmes chart should include the following:-
  - a) Descriptive note explaining sequence of various activities.
  - b) Network (PERT/CPM/BAR CHART)
  - c) Programme for procurement of materials by the contractor
  - d) Programme of procurement of machinery/equipment's having adequate capacity commensurate with the quantum of work to be done within the stipulated period by the contractor.

- 23 If 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 within the stipulated time for completion.
- 24 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 his duties or responsibilities under the contract. This is without prejudice to the right of Engineer-in-Charge to take action against the contractor as per terms and conditions of the agreement.
- 25 If the work is carried out in more than one shift or during night no claim on these accounts shall be entertained.
- 26 Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar services encountered in the course of the execution of work shall be protected against the damage by the contractor at his own expense. The contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services.
- 27 The contractor shall be responsible for the watch and ward/guard of the buildings, safety of all fittings and fixtures including sanitary and water supply fittings and fixtures provided by him against pilferage and breakage during the period of installations and thereafter till the building is physically handed over to the department. No extra payment shall be made on this account.
- 28 The contractor shall bear all incidental charges for cartage, storage and safe custody of materials issued by department.
- 29 Any cement slurry added over base surface for continuation of concreting for better bond is deemed to have been built in the items and nothing extra shall be payable for extra cement considered in consumption on this account.
- 30 The contractor shall take instructions from the Engineer-in-charge for stacking of materials. No excavated earth or building materials etc. shall be stacked/collected in areas where other buildings, roads, services, compound walls etc. are to be constructed.

Any trenching and digging for laying sewer lines/water lines/cables etc. shall be commenced by the contractor only when all men, machinery's and materials have been arranged and closing of the trench(s) thereafter shall be ensured within the least possible time.
- 31 The contractor shall submit for the approval of Engineer-in-Charge names of specialized agencies of repute along with their technical capacity proposed to be engaged by him, who must have executed satisfactorily works of value as specified in mandatory conditions.
  - i) The works shall be carried out in accordance with the Architectural drawings and structural drawings, to be issued from time to time by the Engineer-in-Charge. Before commencement of any item of work, the contractor shall correlate all the relevant architectural and structural drawings issued for the work and satisfy himself that the information available thereof is complete and unambiguous. 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 executing by the commencement of work on the basis of any erroneous and or incomplete information.

- ii) Other agencies will also simultaneously execute and install the works of electrification, air conditioning, lifts, fire-fighting etc. for this work and the contractor shall provide necessary facilities for the same. The contractor shall leave such recesses, holes openings etc. as may be required for the electric, air-conditioning and other related works (for which inserts, sleeves, brackets, conduits base pinion, clamps etc. shall be supplied free of cost by the department unless otherwise specifically mentioned) and the contractor shall fix the same at time of casting of concrete, stone work & brick work, if required and nothing extra shall be payable on this account.
  - iii) The contractor shall conduct work so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer-in-Charge and shall as far as possible arrange his work and shall place and dispose off the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of others.
  - iv) All Architectural drawings given in the tender other than those indicated in nomenclature of items are only indicative of the nature of the work and materials/fixings involved unless and otherwise specifically mentioned. However, the work shall be executed in accordance with the drawings duly approved by the Engineer-in-Charge.
- 32 Samples of all materials and fittings to be used in the work in respect of brand manufacturer and quality shall be got approved from the Engineer-in-Charge, well in advance of actual execution and shall be preserved till the completion of the work. Articles bearing BIS certifications mark shall only be used unless no manufacturer has got BIS mark for the particular material. Any material/fitting whose sample has not been approved in advance and any other unapproved material brought by the contractor shall be immediately removed as soon as directed. Unless otherwise specified in the schedule of quantities the rates for all items shall be considered as inclusive of pumping/baling out water, if necessary, for which no extra payment shall be made. Those conditions shall be considered to include water from any source such as inflow of flood, surface and sub-soil water etc. and shall apply to the execution in any season.
- 33 On completion of work, the contractor shall submit at his own cost four prints of “as built” drawings to the Engineer-in-Charge within 30 days of completion of work. These drawings shall have the following information:
- a) Route of all piping and their diameters including soil waste pipes & vertical stacks.
  - b) Ground and invert levels of all drainage pipes together with locations of all manholes and connections upto outfall.
  - c) Route of all water supply lines with diameters, location of control valves, access panels etc.
- 34 No extra payment will be made for operation/activity mentioned at Serial no.1 to 33 above, unless specified otherwise.
- 35 Condition regarding secured advance :-  
Secured advance shall be admissible only on those bonafide materials which are likely to be used in the work in a period not exceeding 30 days from the date of secured advance payment. If agency fails to use the material (in respect of which secured advance have been paid) in the work in this specified period

of 30 days the said component of secured advance shall be recovered from next running account bill paid to the agency. Secured advance on the same material shall not be paid again.

- 36 In case there is any discrepancy following order of preference will be followed. a. CPWD general specifications for electrical work part – I, Internal 2013, CPWD general specifications for electrical work part – IV, substation CPWD external specifications for electrical 1994. b. National Lighting Code – 2010. c. IS Codes d. National Building Code – 2016 e. Specifications in the NIT f. Any other relevant code g. OEM specifications Note-: All the amendments in the above code till last date of bid submission shall be incorporated.



## **Salient/ Mandatory Requirement for Tender**

The tenderer is advised to read and examine the tender documents for the work and the set of drawings available with Engineer-in-charge. He should inspect and examine the site and its surroundings by himself before submitting his tender.

1. Separate schedule of quantity is included in this tender for electrical & HVAC items of work. If the tenderer wants to offer any unconditional rebates on their rates, the same should also be offered in the respective components of civil and electrical schedule separately. The contractor shall quote the percentage rates in figures and words accurately so that there is no discrepancy in rates written in figures and words.
2. Time allowed for the execution of work is **45 days**
3. The contractor(s) shall submit a detailed program of execution in accordance with the master programme/ milestone within ten days from the date of issue of award letter.
4. Contractor has to arrange and install field laboratory during the currency of work and nothing extra will be paid on this account.
5. Quality of the project is of utmost importance. This shall be adhered to in accordance with the provisions of CPWD specifications and guidelines given in the relevant paras.
6. Contractor has to deploy required Plant and machinery on the project. In case the contractor fails to deploy the plant and machinery whenever required and as per the direction of the Engineer-in-charge, he (Engineer-in-charge) shall be at a liberty to get the same deployed at the risk and cost of the contractor.
7. The contractor shall comply with the provisions of the Apprentices Act 1961, and the rules and orders issued there under from time to time. If he fails to do so, his failure will be a breach of the contract and the Acting Project-In-Charge (Civil)/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.
8. Temporary Electric connection shall be issued as per request and charges shall be recovered as per actual consumption of units.
9. Water will be arrange by contractor at his own sources and not reimbursed by the Institute.
10. EPF and ESI, if applicable, will be reimbursed on actual basis after due verification.
11. Any item which is not available in the BOQ or deviated beyond schedule F shall be paid as extra items shall be worked out as actual cost of material and actual cost of labour plus 15% as overhead and profit. The decision of Engineer-In-Charge will be conclusive and final binding on the contractor.
12. If BOCW (MP Building & Other Construction Workers Welfare Board), Labour Registration & License, EPF & ESIC Registration not submitted, and then 1st RA Bill will not be paid & cleared till the submission of these documents.
13. Certifications like BOCW (MP Building & Other Construction Workers Welfare Board), Labour Registration & License, EPF & ESIC Registration are to be submitted after the issue of Work Order, then only the site will be handed over to you and permission to start the work will be given.

## **A. QUALITY ASSURANCE OF THE WORK**

1. The contractor shall ensure quality control measures on different aspects of construction including materials, workmanship and correct construction methodologies to be adopted. He shall have to submit quality assurance programme within two weeks of the award of work. The quality assurance programme should include method statement for various items of work to be executed along with check lists to enforce quality control.
2. The contractor shall get the source of all other materials, not specified elsewhere in the document, approved from the Engineer-in-Charge. The contractor shall stick to the approved source unless it is absolutely unavoidable. Any change shall be done with the prior approval of the Engineer-in-Charge for which tests etc. shall be done by the contractor at his own cost. Similarly, the contractor shall submit brand/ make of various materials not specified in the agreement, to be used for the approval of the Engineer-in-Charge along with samples and once approved, he shall stick to it.

## **B. Other Laboratories:**

1. The contractor shall arrange carrying out of all tests required under the agreement through the laboratory as approved by the Engineer-in-Charge and shall bear all charges in connection therewith including fee for testing. The said cost of tests shall be borne by the contractor/department in the manner indicated below.
2. By the contractor, if the results show that the test does not conform to relevant CPWD Specifications / BIS code or specification mentioned elsewhere in the documents
3. By the department, if the results confirm to relevant CPWD Specifications / BIS code or specification mentioned elsewhere in the documents.
4. If the tests, which were to be conducted in the site laboratory, are conducted in other laboratories for whatever the reasons, the cost of such tests shall be borne by the contractor.

## **C. Sampling of Materials:**

1. Sample of building materials fittings and other articles required for execution of work shall be got approved from the Engineer-in-Charge. Articles manufactured by companies of repute and approved by the Engineer-in-Charge shall only be used. Articles bearing BIS certification mark shall be used in case the above are not available, the quality of samples brought by the contractor shall be judged by standards laid down in the relevant BIS specifications. All materials and articles brought by the contractor to the site for use shall conform to the samples approved by the Engineer-in-Charge which shall be preserved till the completion of the work.
2. The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material/work beyond set out tolerance limit shall be summarily rejected by the Engineer-in-Charge
3. BIS marked materials except otherwise specified shall be subjected to quality test at the discretion of the Engineer-in-Charge besides testing of other materials as per the specifications described for the item/materials. Wherever BIS marked materials are brought to the site of work, the contractor shall if required, by the Engineer-in-Charge furnish manufacturers test certificate or test certificate from approved testing laboratory to

4. establish that the material produced by the contractor for incorporation in the work satisfies the provisions of BIS codes relevant to the material and/or the work done.
5. The contractor shall procure all the materials at least in advance so that there is sufficient time to testing and approving of the materials and clearance of the same before use in work.
6. All materials brought by the contractor for use in the work shall be got checked from the Engineer-in-Charge or his authorized representative of the work on receipt of the same at site before use.
7. The contractor shall be fully responsible for the safe custody of the materials issued to him even if the materials are in double lock and key system.

#### **D. ADDITIONAL TERMS AND CONDITIONS**

1. Unless otherwise provided in the Schedule of Quantities/Specifications, the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the work and nothing extra shall be payable to him on account of the same. Extra payment for centering/shuttering, if required to be done for heights greater than 3.5 m shall however be admissible at the rates arrived at in accordance with clause 12 of the agreement, if not already specified.
2. Other agencies doing works related with this project may also simultaneously execute their works and the contractor shall afford necessary facilities for the same. The contractor shall leave such necessary holes, openings etc. for laying/burying in the work, pipes cables, conduits, clamps, boxes and hooks for fan clamps etc. as may be required for the other agencies. Nothing extra over the Agreement rates shall be paid for doing these.
3. Some restrictions may be imposed by the security staff etc. on the working and for movement of labor, materials etc. The contractor shall be bound to follow all such restrictions/instructions and nothing extra shall be payable on account of the same.
4. The contractor shall fully comply with all legal orders and directions of the Public or local authorities or municipality and abide by their rules and regulations and pay all fees and charges for which he may be liable in this regard. Nothing extra shall be paid/reimbursed for the same
5. The building work shall be carried out in the manner complying in all respects with the requirements of the relevant bylaws and regulations 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 shall be paid on this account.
6. If as per local Municipal regulations, huts for labor are not to be erected at the site of work; the contractor shall be required to provide such accommodation at a place as is acceptable to the local body and nothing extra shall be paid on this account.
7. The structural and architectural drawings shall at all times be properly co-related before executing any work. However, in case of any discrepancy in the item given in the schedule of quantities appended with the tender and Architectural drawings relating to the relevant item, the former shall prevail unless otherwise given in writing by the Engineer-in- charge.
8. For the purpose of recording measurements and preparing running account bills, the abbreviated nomenclature indicated in the publications Abbreviated Nomenclature of Items of DSR 2016 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 relevant specifications.

9. In case of items for which abbreviated nomenclature is not available in the aforesaid publication and also in case of extra and substituted items for which abbreviated nomenclature are not provided for in the agreement, full nomenclature of item shall be reproduced in the measurement books and bill forms for running account bills.
10. For the final bill, however, full nomenclature of all the items shall be adopted in preparing abstract in the measurement books and in the bill forms.
11. The contractor shall take instructions from the Engineer-in-charge for stacking of materials. No excavated earth or building materials etc. shall be stacked/ collected in areas where other buildings, roads, services, compound walls etc. are to be constructed.
12. Any trenching and digging for laying sewer lines/water lines/cables etc. shall be commenced by the contractor only when all men, machinery's and materials have been arranged and closing of the trench(s) thereafter shall be ensured within the least possible time.
13. It shall be ensured by the contractor that no electric live wire is left exposed or unattended to avoid any accidents in this regard.
14. In case the supply of timber/steel frames/shutters for doors, windows etc. is made by some other agency, the contractor shall make necessary arrangements for their safe custody on the direction of the Engineer-in-charge till the same are fixed in position by him & nothing extra shall be paid on this account.
15. The contractor shall maintain in perfect condition, all portions executed till completion of the entire work allotted to him. Where however phased delivery of work is contemplated these provisions shall apply separately to each phase.
16. The entire royalty at the prevalent rates shall have to be paid by the contractor on all the boulders, metals, shingle sand etc. collected by him for execution of the work, directly to the Revenue authority or authorized agents of the State Government concerned or the Central Government, as the case may be.
17. The contractor shall bear all incidental charges for cartage, storage and safe custody of materials issued by the departments and shall construct suitable godowns, yards at the site of work for storing all materials as to be safe against damage by sun, rain, dampness, fire, theft etc. at his own cost and also employ necessary watch and ward establishment for the purpose, at his own cost. Materials to be charged directly to work and stipulated for issue free of cost shall also be issued to the contractor as soon as those are received at site or at the stipulated place of issue. The provision of this para shall apply equally and fully to those as well.
18. All materials obtained from the Infrastructure Development Office store or otherwise on receipt shall be checked by the Engineer-in-charge of the work or his representations before use.
19. Registers for the materials to be issued by the department shall be maintained as required by the Engineer-in-charge and these shall be signed by the contractor or his authorized agent and representative of Engineer-in-charge on each day of transactions.

## **SPECIAL CONDITIONS**

1. The contractor shall not store/dump construction material or debris on road.
2. The contractor shall get prior approval from Engineer-in-Charge for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic/inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.
3. The contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot/area using CGI sheets or plastic and/or other similar material to ensure that no construction material dust fly outside the plot area.
4. The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purposes/or are carrying construction material like cement, sand and other allied material are fully covered. The contractor shall take every necessary precautions that the vehicle are properly cleaned and dust free to ensure that enroute their destination, the dust, sand or any other particles are not released in air/contaminate air.
5. The contractor shall provide mask to every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.
6. The contractor shall provide all medical help, investigation and treatment to the workers involved in the construction of building and carriage of construction material and debris relatable to dust emission.
7. The contractor shall ensure that C&D waste is transported to the C&D waste site only and due record shall be maintained by the contractor.
8. The contractor shall ensure compulsory use of jet in grinding and stone cutting.
9. The contractor shall carry out on-Road-Inspection for black smoke generating machinery. The contractor shall use cleaner fuel.
10. The contractor shall ensure that the DG sets comply emission norms notified by MoEF.
11. The contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 kmph. Speed bumps shall be used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, the contractor shall divert traffic to nearby paved areas.
12. The contractor shall ensure that the construction material is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.
13. The work may involve working in odd hours. No extra payment shall be made on account of the same.
14. No extra payment will be made for operation/activity mentioned above.
15. MTC of all the material shall be submitted by Agency.

16. The contractor shall make his own arrangement for electricity. IIT Indore at its own discretion may however consider providing the electric connection in special circumstances on payment basis. In that case, contractor has to make his own arrangement for laying the cables and other distribution system from the tap off point. On completion of the project No dues certificate shall be obtained by the contractor. No extra payment will be made for the operation/activity mentioned . The electricity bill amount inform by IIT authorities shall be paid within 15 days after receiving of bill otherwise same amount will be withheld from running or final bill till the payment not done by agency.

17. **GUARANTEE FOR WATER PROOFING TREATMENT:**

16.1 The contractor shall be fully responsible for and shall guarantee proper performance of the entire waterproofing system for a period of 10(Ten) years from the final completion of works. In addition, specific 10 years written guarantee (to be furnished in a non-judicial stamp paper of value not less than Rs. 100/-) in the prescribed proforma shall be submitted for the performance of the system before final payment shall not in any way limit any other rights the Employer may have under the contract. All water-proofing work shall be carried out through specialized agency as per method of working approved by the Engineer-in-Charge. However, the contractors shall be solely responsible for waterproofing treatment until the expiry of the above guarantee period.

16.2 Ten years guarantee in prescribed proforma shall be given by the contractor for the water proofing treatment. In addition, 10% (ten percent) of the cost of these items of water proofing under this sub head shall be retained as guarantee to watch the performance of the work executed. However, half of this amount(withheld) would be released after five years from the date of completion of the work, if the performance of the waterproofing works is satisfactory. The remaining withheld amount shall be released after completion of ten years from the date of completion of work, if the performance of the waterproofing work is satisfactory. If any defect is noticed during the guarantee period, it should be rectified by the contractor within seven days of issuing of notice by the Engineer-in-Charge and, if not attended to, the same shall be got done through other agency at the risk and cost of the contractor and recovery shall be effected from the amount retained towards guarantee. In any case, the contractor and the specialized agency, during the guarantee period, shall inspect and examine the treatment once in every year and make good any defect observed and confirm the same in writing. The security deposit can be released in full, if bank guarantee of equivalent amount, valid for the duration of guarantee period is produced and deposited with the Department.

## **SPECIAL CONDITION FOR MATERIAL**

1. The contractor shall at his own expense procure and provide all materials required for the work.
2. The contractor shall procure all the materials in advance so that there is sufficient time to testing and approving of the materials and clearance of the same before use in work.
3. All materials brought by the contractor for use in the work shall be got checked from the Engineer-in-Charge or his authorized representative of the work on receipt of the same at site before use.
4. The contractor shall also employ necessary watch and ward establishment for the safe custody of materials at his own cost.

## LIST OF PREFERRED MAKES OF ELECTRICAL & HVAC MATERIALS

- The makes of all the materials to be used in the work have been specified. However, if any material to be used in the work and the make is not specified the decision of the Engineer-in-charge in writing shall be final.

S. NO	ITEM DESCRIPTION	MANUFACTURER
1	STEELCONDUIT AND ACCESSORIES (ISI MARKED)	BEC/ AKG/ RM CON / Steel Kraft
2	PVC INSULATED FRLS COPPER CONDUCTOR CABLES 1.1 KV GRADE (ISI MARKED)	FINOLEX / HAVELLS / RR KABLE / L&T / POLYCAB
3	MODULAR PLATE TYPE SWITCH / SOCKET GI BOXES / FAN REGULATOR / TELEPHONE SOCKET	SCHNEIDER (Clipsal) / LEGRAND (Myrius) / MK (BLENZ)/Wipro (Convex)
4	MCB / MCB DB'S / RCBO / MCCB / MCCB DB	LEGRAND / SCHNEIDER / ABB / L&T/ SIEMENS/ HAVELLS
5	LED TUBE / BULKHEAD LIGHT FITTINGS	PHILIPS / LIGHTING TECHNOLOGIES / TRILUX / BAJAJ/WIPRO/HAVELLS
6	WALL BRACKET FITTINGS	PHILIPS / LIGHTING TECHNOLOGIES / TRILUX / WIPRO / JAQUAR / KESELEC/BAJAJ
7	CEILING FAN (BLDC- 5 STAR RATED ISI MARKED)	GORILLA / CROMPTON GREAVES / USHA/HAVELLS
8	EXHAUST FANS/ FRESH AIR FAN	KHAITAN / CROMPTON / USHA / ALMONARD /HAVELLS
11	1.1 KV XLPE CABLE (ISI MARKED) (Power and Control)	FINOLEX / GLOSTER / HAVELLS / RR KABEL / CCI / POLYCAB
12	OCTOGONAL STREET LIGHT POLE/Brackets	BAJAJ / VALMOUNT/ TRANSRAIL/RR Spat (Consoul)
13	DIGITAL INDICATING/ MEASURING INSTRUMENTS / MULTIFUNCTION METERS	L&T (QUASER) / SCHNEIDER ( CONZERV) / AE / RISHAB
14	SELECTOR SWITCH	L&T/ KAYCEE/ SIEMENS/ AE
15	INDICATION LAMP & PUSH BUTTON	BCH/ L&T/SIEMENS/ SCHNEIDER
16	DIGITAL ENERGY METER	L & T / CONZERV/ SECURE
18	CABLE GLAND/ LUGS/ THIMBLES	COMMET/ DOWELLS/ RAYCHEM
19	G I PIPE / MS PIPE	TATA / JINDAL HISSAR / SAIL / (ISI MARKED)
20	IDMT/NUMERICAL RELAYS FOR OVER CURRENT/ EARTH FAULT	L & T/SIEMENS/ SCHNEIDER / ABB / GE
21	POWER / CONTROL CONTACTORS	GE/ L & T / SIEMENS / SCHNEIDER / ABB
22	BATTERIES	EXIDE / AMRON / AMAR RAJA



23	LT PANEL	OEM approved manufacturers of Siemens/Schneider Electric/L&T/ABB/Legrand
26	ELECTRICAL SWITCHGEAR & STARTERS, RELAYS	SIEMENS / L & T / ABB / SCHNEIDER
28	CTs FOR PANELS	AUTOMATIC ELECTRIC / L & T / INTRANS / INSTRANS
29	CONTACTORS	SIEMENS / L&T / SCHNEIDER / ABB
35	LED - STREET LIGHT / POST TOP LANTERN / GATE LIGHT / BOLLARD	PHILIPS / WIPRO / KESELAC / LIGHTING TECHNOLOGY /HAVELLS/BAJAJ
36	Cat 6/6A UTP Cable	Belden/Comscope/Tyco/Legrand/Panduit/Molex
37	G.I. Sheets	SAIL/ TATA/ JINDAL/NATIONAL
38	GSS Factory Fabricated Ducts/ Duct Flanges	ROLASTAR /ZECO/DUCTOFAB/ECODUCT
39	Spiral Round/ Oval ducts	SPIRO/7 STAR/ DUSTECH
40	Duct Support	KANWAL/ HILTI
41	Grills/ Diffusers/ Fire Dampers/ Louvers/ Volume Control Dampers/ Back Draft Dampers	AIR MASTER /TITUS/PRECISE /CARYAIRE
42	Closed Cell Nitrile rubber insulation	ARMACELL / K- FLEX / VIDOFLEX / A-FLEX
	<b>All other items not covered</b>	<b>As approved by the Engineer-in-charge.</b>

## **ADDITIONAL TERMS AND CONDITIONS for Electrical & HVAC Works**

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

The electrical work shall be executed in close coordinated manner with client department.

Conduit layout drawing shall be got approval by Engineer -in-charge before laying of conduit.

Watch and ward:-

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

Completeness of tender:-

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

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

Conformity to specifications:-

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

FRLS PVC insulated copper wire used shall be ISI marked and wire of the size 4.00 Sq. mm and above shall be of stranded conductors and all standard wires are required to be crimped for connections / terminations.

All accessories like switches, sockets, C/rozes, holders shall be ISI marked.

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

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

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

Earthing connections:-

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

Proper sleeving is to be provided to bare earth conductor in the switch boxes and also to bore conductors used for inter switch looping inside the switch boxes for which no extra will be paid.

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

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

## DUCTING

### 1. RECTANGULAR DUCTS

- i) All ducts shall be fabricated either from Galvanized Sheet Steel (GSS) conforming to IS: 277 or aluminum sheets conforming to IS: 737. The steel sheets shall be hot dip galvanized with coating of minimum 120 grams per square meter (GSM) of Zinc.
- ii) The thickness of sheets for fabrication of rectangular ductwork shall be as under. The thickness required corresponding to the longest side of the rectangular section shall be applicable for all the four sides of the ductwork.

Longest side (mm)	Minimum sheet thickness	
	For GSS	For Aluminum
750 mm and below	0.63	0.80
751 mm to 1500 mm	0.80	1.00
1501 mm to 2250 mm	1.00	1.50
2251 mm & above	1.25	1.80

- i) All sheet metal connections, partitions and plenums required for flow of air through the filters, fans etc. shall be at least 1.25 mm thick galvanized steel sheets, in case of G.I. sheet ducting or 1.8 mm thick aluminum sheet, in case of aluminum sheet ducting and shall be stiffened with 25mm x25 mm x 3 mm angle iron braces.
- ii) Circular ducts, where provided shall be of thickness as specified in IS: 655 as amended upto date.
- iii) Aluminium ducting shall normally be used for clean room applications, hospitals works and wherever high cleanliness standards are functional requirements.

### FLAT OVAL SPRIAL DUCTS

- i) All Flat Oval/ Round Spiral Duct and Fittings shall be manufactured from 120 gsm galvanized steel of lock forming quality.
- ii) All Flat Oval/ Round Spiral Ducts should have in Continuous external reinforcement with 4-ply Spiral lock seam at regular intervals of 125 mm of maximum length of 3 m each. The fabrication of flat Oval spiral ducts & duct fittings should be as per SMACNA High pressure duct standards, 1985.
  - ii) All Flat Oval/ Round Spiral Ducts and Duct fittings shall be joined with slip joint connects of 50mm insertion length and fastened with rivets.

**Minimum duct wall thickness shall be as indicated in Table below:-**

**Flat Oval Duct Gauge**

<b>Major Dimension Duct Width (MM)</b>	<b>Longitudinal Seam (GAUGE)</b>	<b>Spiral Seam (GAUGE)</b>	<b>Fitting (GAUGE)</b>
UPTO 600	20	24	20
601 TO 750	20	22	20
751 TO 900	20	22	20
901 TO 1050	18	22	18
1051 TO 1200	18	22	18
1201 TO 1350	18	20	18
1351 TO 1500	18	20	18
1501 TO 1750	16	20	16
1751 & ABOVE	16	18	16

**ROUND Duct Gauge**

<b>Major Dimension Duct Width (MM)</b>	<b>Seam (GAUGE)</b>	<b>Fitting (GAUGE)</b>
UPTO 600	24	24
601 TO 900	22	22
901 TO 1250	22	20
1251 & ABOVE	18	18

1) Reinforcement for oval/ Round duct shall be of the same and spacing interval as specified for rectangular duct or shall be provided to limit wall deflection to  $\frac{3}{4}$  in. (19mm) and reinforcement deflection to  $\frac{1}{4}$  in (6.4mm)

2) Unless otherwise specified, joints and seams shall be similar to those indicated for round duct.

3) Fittings shall conform to the thickness schedules in Table, shall conform to the seam, joint, and connection arrangements permitted for round duct, and shall be reinforced to conform to Point no. 1.

4) The duct construction shall be capable of withstanding a pressure 50 percent greater than that of the assigned pressure class without structural failure or permanent deformation.

5) Duct wall deflection at atmospheric pressure, with reinforcement and connections in place, shall not exceed  $\frac{1}{4}$  in. (6.4 mm) on widths of 36 in. (914mm) or less of  $\frac{1}{2}$  in (13 mm) on greater widths. Refer Criteria in Chapter 11 of SMACNA Standards – 2005 Third Edition.

6) Supports shall conform to those permitted for rectangular duct, with the overall dimensions taken as references.

## **DOCUMENTATION & MEASUREMENT OF DUCTING**

All ducts fabricated and installed should be accompanied and supported by following documentation:

1) For each drawing, all supply of ductwork must be accompanied by computer generated detailed bill of materials indicating all relevant duct sizes, dimensions and quantities. In addition, summary sheets are also to be provided showing duct area by gauge and duct size range as applicable.

2) Measurement sheet covering each fabricated duct showing dimensions and external surface area along with summary of external surface area of duct gauge-wise

3) All duct pieces to have a part number, which should correspond to the serial number, assigned to it in the measurement sheet. The above system will ensure speedy and proper site measurement, verification and approvals.

## **TESTING**

After duct installation, total duct work (Air-conditioning and Mechanical Ventilation Ducts) should be tested for leakage. The procedure for leak testing should be followed as per SMACNA – “HVAC Air Duct Leakage Test Manual” (First Edition – 1985)

## **CONSTRUCTION**

### **DUCTS**

i) Ducts shall be fabricated at site or factory fabricated and shall be generally as per IS: 655 "Specifications for metal air ducts", unless otherwise deviated in these General Specifications.

ii) The interior surfaces of the ducting shall be smooth.

iii) All the ducts upto 600mm longest side shall be cross broken between flanges by a single continuous breaking. Ducts of size 600mm and above shall be cross broken by single continuous breaking between flanges and bracings. Alternatively, beading at 300mm centers for ducts upto 600mm longest side, and 100mm centers for ducts above 600mm size shall be provided for stiffening.

iv) As far as possible, long radius elbows and gradual changes in shape shall be used to maintain uniform velocity accompanied by decreased turbulence, lower resistance and minimum noise. The ratio of the size of the duct to the radius of the elbow shall be normally not less than 1:1.5.

v) Flanged joints shall be used at intervals not exceeding 2500mm. Flanges shall be welded at corners first and then riveted to the duct.

vi) Stiffening angles shall be fixed to the sides of the ducts by riveting at 1.2.5 meters from joints for ducts of size 600mm to 1500mm, and 0.6mm from joints for ducts of size larger than 1500mm. Bracings for ducts larger than 1500mm can alternatively be by/diagonal angles.

vii) Plenums for filters shall be complete with suitable access door of size 450mm x450mm.

### **AIR OUTLET AND INLETS (SUPPLY AND RETURN)**

i) All air outlets and intakes shall be made of extruded aluminum sections & shall present a neat appearance and shall be rigid with mechanical joints.

ii) square and rectangular wall outlets shall have a flanged frame with the outside edges returned or curved 5 to 7 mm and fitted with a suitable flexible gasket between the concealed face of the flanges and the finished wall face. The core of supply air register shall have adjustable front louvers parallel to the longer side to give upto 22.5 degrees vertical deflection and adjustable back louvers parallel to the shorter side to achieve a horizontal spread air pattern to at least 45 degrees. Return air grilles shall have only front louvers. The outer framework of the grilles shall be made of not less than 1.6 mm thick aluminum sheet. The louvers shall be of aero foil design of extruded aluminum section with minimum thickness of 0.8mm at front and shall be made of 0.8mm thick aluminum sheet. Louvers may be spaced 18 mm apart.

iii) Square and rectangular ceiling outlets/intakes shall have a flange flush with the ceiling into which it is fitted or shall be of anti-smudge type. The outlets shall comprise an outer shell with duct collar and removable diffusing assembly. These shall be suitable for discharge in one or more directions as required. The outer shell shall not be less than 1.6 mm thick extruded section aluminum sheet. The diffuser assembly shall not be less than 0.80 mm thick extruded aluminum section.

iv) Circular ceiling outlets/intakes shall have either flush or anti smudge outer cone as specified in the tender specifications. Flush outer cones shall have the lower edge of the cone not more than 5 mm below the underside of the finished ceiling into which it is fitted. Anti-smudge cones shall have the outer cone profile designed to reduce dirt deposit on the ceiling adjacent to the air outlet. The metal sheet used for construction of these shall be minimum 1.6 mm thick extruded aluminum sheet.

v) Linear diffusers shall have a flanged frame with the outside edges returned 3.5 mm and shall have one to four slots as required. The air quantity through each slot shall be adjustable. The metal sheet used for the construction of these shall be minimum 1.6 mm thick extruded aluminum sheet.

vi) Grilles and diffusers constructed of extruded aluminum sections shall have grille bars set straight, or deflected as required. These shall be assembled by mechanical interlocking of components to prevent distortion. These grilles and diffusers shall have a rear set of adjustable blades, perpendicular to the face blades for deflection purposes.

vii) All supply air outlets shall be fitted with a volume control device, made of extruded aluminum gate section. The blades of the device shall be mill finish/ block shade pivoted on nylon brushes to avoid rusting & rattling noise, which shall be located immediately behind the outlet and shall be fully adjustable from within the occupied space without removing any access panel. The volume control device for circular cutlets shall be opposed blade radial/shutter type dampers, or two or more butterfly dampers in conjunction with equalizing grid. Opposed blade dampers shall be used for square and rectangular ceiling/ wall outlets and intakes.

viii) All the products supplied by contractor should supplement 'in performance by selection curves of product ratings from the manufacturer.

ix) Laminar supply air diffusers shall be made of 2mm thick powder coated aluminum sheet duly insulated with 5mm thick closed cell polyethylene foam insulation having factory laminated aluminum foil and joints covered with self-adhesive aluminum tape and having holes 2/3 mm dia including frame work.

## **ACOUSTIC LINING AND INSULATION**

### **MATERIAL TYPES**

- i) For Insulation of duct work: -Closed cell nitrile rubber.
- ii) For acoustic lining of Ducting and AHU rooms: -Resin bonded glass wool.
- iii) For suction line and Chiller insulation: -Nitrile rubber insulation
- iv) For double skin AHUs: -Polyurethane foam (PUF insulation)

### **MATERIAL SPECIFICATIONS**

The insulation material shall satisfy the following requirements:

- i) For thermal insulation of ducts & Drain piping:

Material	Minimum Density (Kg/Cum)
Nitrile Rubber	50

- ii) For acoustic lining:
-

Application	Material	Minimum Density (Kg./Cu.M)
Duct	Resin bonded glass wool	32
AHU room	Resin bonded glass wool	32

iv) The specification for resin bonded glass wool insulation & resin bonded mineral wool insulation shall conform to IS 8183 as amended up to date. The specification for expanded polystyrene shall conform to IS-4671 as amended up to date

v) Expansion tank Insulation: Expanded polystyrene insulation of density not less than 20kg per cum. shall be used.

**CONTRACT FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF WATER PROOFING WORKS**

(BASEMENT/LOWER GROUND FLOOR/UNDER GROUND TANK/ROOF)

The Agreement made this \_\_\_\_\_ day of \_\_\_\_\_ Two thousand \_\_\_\_\_ and between \_\_\_\_\_ Son of \_\_\_\_\_ (hereinafter

Called the Guarantor of the one part) and the PRESIDENT OF INDIA (hereinafter called the Government of the other part).

WHEREAS THIS agreement is supplementary to a contract (hereinafter called the contract) dated

\_\_\_\_\_ and made between the GUARANTOR OF THE ONE part and the Government of the other

Part, whereby the contractor, inter alia, undertook to render the buildings and structures in the contract recited completely water and leak-proof.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said structures will remain water and leak-proof for 10 (Ten) years from the date after the maintenance period prescribed in the contract.

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

Provided that the Guarantor will not be responsible for the leakage caused by earthquake or structural defects or misuse of roof or alteration and for such purpose:





## **Form of Performance Security (Guarantee)**

### **Bank Guarantee Bond**

In consideration of the President of India (hereinafter called "The Government") having offered to accept the terms and conditions of the proposed agreement between.....and .....

(Hereinafter called "the said Contractor(s)") for the work..... (hereinafter

Called "the said agreement") having agreed to production of an irrevocable Bank Guarantee for Rs. (Rupees

..... only) as a security/guarantee from the contractor(s) for compliance of his obligations in

accordance with the terms and conditions in the said agreement.

We... (Hereinafter referred to as "the Bank") hereby undertake to pay to the Government an amount not exceeding Rs. .... (Rupees..... Only) on demand by the Government.

We, .....(indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demure, merely on a demand from the Government stating that the amount claimed as 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)

We, the said bank further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the Contractor(s) shall have no claim against us for making such payment.

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

We, ..... (indicate the name of the Bank) further agree with the Government that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligation hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the

Government against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor(s) or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

We, ..... (indicate the name of the Bank) lastly undertake not to revoke this guarantee except with the previous consent of the Government in writing.

This guarantee shall be valid up to .....unless extended on demand by the Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs.

..... (Rupees .....) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

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

# PART C

**Name of Work:** E&M work of construction of prefabricated structure in 3rd floor Pod 1E  
**Price schedule of items (BOQ)**

Sr.no.	Description	Quantity	Unit	Unit Rate	Amount
1	Supply, installation, balancing and commissioning of fabricated at site GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required.				
1.1	Thickness 0.63 mm sheet	120	Sqmt		
1.2	Thickness 0.80 mm sheet	180	Sqmt		
2	Supply, installation, testing and commissioning of GI volume control duct damper complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as per specifications.	5.7	Sqmt		
3	Supplying & fixing of powder coated extruded aluminium Return Air Grills with louvers but without volume control dampers complete as required.	10	Sqmt		
4	Supplying, fixing testing commissioning of supply air diffusers of powder coated aluminium with aluminium volume control dampers with anti-smudge ring & removable core.	5	Sqmt		
5	Supplying and fixing of following thickness duly laminated aluminum foil of mat finish closed cell Nitrile rubber (Class "O") insulation on existing duct after applying suitable adhesive for Nitrile rubber. The joints shall be sealed with 50 mm wide, and 3 mm thick self-adhesive nitrile rubber tape insulation complete as per specifications and as required.				
5.1	19mm	350	Sqmt		

## Electrical Works:

Sr. No.	Description	Quantity	Unit	Rate (Rs)	Amount
6	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class steel conduit, with piano type switch, Phenolic laminated sheet plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.				
6.1	Group C	40	Point		
7	Supplying and fixing of following sizes of steel conduit along with accessories in surface/recess including painting in case of surface conduit or cutting the wall and making good the same in case of recessed conduit as required.				
7.1	32 mm	150	Meter		
8	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required.				
8.1	3 x 4 sq. mm	650	Meter		
9	Supplying and fixing following size/ modules, GI box along with modular base & cover plate for modular switches in recess etc. as required.				
9.1	3 Module (100mmX75mm)	10	Each		
9.2	6 Module (200mmX75mm)	24	Each		

10	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.				
10.1	5/6 amps switch	10	Each		
10.2	15/16 amp switch	36	Each		
10.3	3 pin 5/6 amp socket outlet	10	Each		
10.4	6 pin 15/16 amp socket outlet	36	Each		
11	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	10	Each		
12	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019), THD less than 10%, electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	13.00	Each		

13	Providing and fixing following rating and breaking capacity and pole MCCB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required.				
13.1	125 A.36KA.FPMCCB	1	Each		
14	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)				
14.1	6 way (4 + 18), Double door	1	Each		
15	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) with PPI kit.				
15.1	4 way (4 + 12), Double door	1	Each		
16	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
16.1	Single pole	12	Each		



17	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
17.1	63 A	3	Each		
18	Supplying and fixing following rating, four pole, 415 V, 63 Amp MCB in the existing MCB DB complete with connections, testing and commissioning etc. as required.	3	Each		
19	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	5	Each		
20	Supplying and installing following size of perforated Hot Dipped Galvanized Iron cable tray (Galvanization thickness not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.				
20.1	150 mm width X 50 mm depth X 1.6 mm thickness	50	Meter		
21	Supplying and installing following size of perforated Hot Dipped Galvanized Iron cable tray "bends" (Galvanization not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors,				

	suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.				
21.1	150 mm width X 50 mm depth X 1.6 mm thickness	4	Each		
22	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray "Tee" (Galvanization not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.				
22.1	150 mm width X 50 mm depth X 1.6 mm thickness	4	Each		
23	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				
23.1	3½ X 70 sq. mm (38mm)	4	Each		
24	Supplying and laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 kV grade of following size in the existing masonry open duct as required.				
24.1	3 ½ C X 70 sq mm Aluminium Armoured	350	Meter		

25	Supply, installation, Testing & Commissioning of <b>36W</b> recessed mounted LED fixture 600mm x 600mm (2x2) recessed mounted LED fixture with CRCA powder coated housing high efficiency PMMA diffuser complete with electronic driver, P.F>0.9, THD<10%, rated life of L-70 @ 40,000 having minimum lumens output of 3600 lumens & efficacy better than 100 lumens/watt with CRI > 80 including making suitable arrangement as per recommendations of manufacturer for fixing on surface & connection with 3 x 1.5 sq.mm PVC insulated Flame Retardant-LSZH copper conductor cable etc, as required.	23	Each		
26	Supply, Installation, Testing & Commissioning of 18/20 W LED Tube Light fixture.	4	Each		
<b>Grand Total</b>					